

Machine Tool Technology/Machinist, Classification of Instructional Program (CIP) 48.0501 Units of Instruction and Task Grid Linked to Pennsylvania Core Standards

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1

100 ORI	PRIENTATION/SAFETY.			
Admindus 102 RES 103 Appl 104 RES 105 RES 106 Revi	Describe the Occupational Safety and Health administration (OSHA) and its role in the machining adustry. ESERVED Apply general safety procedures. ESERVED ESERVED ESERVED ESERVED ESERVED ESERVED ESERVED ESERVED	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.9-10. A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.9-10 B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by

Analyze the structure of the relationships among concepts in a text, etc.

Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F

Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10

• Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).

Standard CC.3.5.9-10. H

Assess the reasoning in a text to support the author's claim for solving a technical problem.

Standard CC.3.5.9-10. I

Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12

Standard CC.3.5.11-12. G

Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.

Standard CC.3.5.11-12. H

Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I

planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E.

Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.

Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H.

Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I.

Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

		Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.		
200 PERFORMING LAYOUT WORK.				
201 Perform layout work. 202 RESERVED 203 Employ basic and precision layout tools.	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.9-10. A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers. ALGEBRA Standard 2.2.HS.C.9 Prove the Pythagorean

Standard CC.3.5.9-10.F

Standard CC.3.5.11-12.F

calculate trigonometric

identity and use it to

ratios.

planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most

Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or

chart).

Standard CC.3.5.9-10. H

Assess the reasoning in a text to support the author's claim for solving a technical problem.

Standard CC.3.5.9-10. I

Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12

Standard CC.3.5.11-12. G

Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.

Standard CC.3.5.11-12. H

Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I

Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J

significant for a specific purpose and audience.

Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E.

Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.

Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H.

Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I.

Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

GEOMETRY

Standard 2.3.HS.A.7

Apply trigonometric ratios to solve problems involving right triangles.

Standard 2.3.HS.A.3

Verify and apply geometric theorems as they relate to Geometric figures.

Standard 2.3.HS.A.13

Analyze relationships between two dimensional and three dimensional objects.

300	PART INSPECTION.		Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.		
301 302 303	Employ precision measuring instruments. Calibrate precision measuring instruments. Conduct quality control procedures.	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.9-10. A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedureand Analyze the structure of the relationships among concepts in a text. INTEGRATE KNOWLEDGE & IDEAS	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers. ALGEBRA Standard 2.2.HS.C.9 Prove the Pythagorean identity and use it to calculate trigonometric ratios. GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. Standard 2.3.HS.A.3

	GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc. INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formatsto solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.	individual or shared writing products. RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research. RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and	Verify and apply geometric theorems as they relate to Geometric figures. Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.
	when possible. Standard CC.3.5.11-12. I Synthesize information from a	Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a	
	T		
400 BENCH WORK.			

- 401 Apply bench work safety procedures.
- 402 Cut material with a hand hacksaw.
- 403 File work to specifications.
- 404 Cut threads with hand taps and dies.
- 405 RESERVED
- 406 Use hand tools.
- 407 Use a hand arbor and/or hydraulic press.

CAREER CLUSTER Manufacturing Career Cluster

(Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE:

Maintenance, Installation and Repair Career Pathway

(Choose Standards) 1-2-3-4-5-6

NOTE:

Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area. KEY IDEAS/DETAILS
GRADES 9-10-11-12
Standard CC.3.5.9-10. A
Standard CC.3.5.11-12 A
Cite specific textual evidence, etc.
Standard CC.3.5.9-10 B
Standard CC.3.5.11-12. B
Determine the central ideas or conclusions of a text; etc.
Standard CC.3.5.9-10.C
Standard CC.3.5.11-12.C
Follow precisely a complex

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D

multistep procedure, etc.

Standard CC.3.5.11-12.D

Determine the meaning of symbols, key terms, and other domain specific words.

Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E

Analyze the structure of the relationships among concepts in a text, etc.

Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F

Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a toxt.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10

Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).

Standard CC.3.5.9-10. H

PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B

TEXT TYPES AND

Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12

processes, etc.

Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task,

purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E.

Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer

NUMBERS AND OPERATIONS

Standard 2.1.HS.F.2

Apply properties of rational and irrational numbers to solve real world or mathematical problems.

Standard 2.1.HS.F.4

Use units as a way to understand problems and to guide the solution of multistep problems.

Standard 2.1.HS.F.5

Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Standard 2.1.HS.F.6

Extend the knowledge of arithmetic operations and apply to complex numbers.

Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc. INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented	a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.	
in diverse formatsto solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9-10, AND	RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiencesetc.	
11-12, read and comprehend technical texts independently and proficiently.		

;	500 DRILL PRESSES.				
	 Apply drill press safety procedures. Operate drill press work holding devices. RESERVED RESERVED Select correct drill sizes for drill press application. RESERVED Demonstrate counterboring, spot facing, and countersinking. 	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc.	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4

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508 RESERVED	CAREER PATHWAYS	Standard CC.3.5.9-10.C	Write informative or	Use units as a way to
509 RESERVED	INCLUDE:	Standard CC.3.5.11-12.C	explanatory texts, including	understand problems and to
510 RESERVED	Maintenance,	Follow precisely a complex	the narration of technical	guide the solution of
511 RESERVED	Installation and Repair	multistep procedure, etc.	processes, etc.	multistep problems.
	Career Pathway		PD OPTIGETOR 6	Standard 2.1.HS.F.5
	(Choose Standards)	CRAFT & STRUCTURE	PRODUCTION &	Choose a level of accuracy
	1-2-3-4-5-6	GRADES 9-10-11-12	DISTRIBUTION OF	appropriate to limitations on
		Standard CC.3.5.9-10. D	WRITING GRADES 9-10-11-12	measurement when reporting
	NOTE:	Standard CC.3.5.11-12.D	Standard CC.3.6.9-10.C	quantities.
		Determine the meaning of	Standard CC.3.6.11-12 C	Standard 2.1.HS.F.6
	Refer to the Common Career Technical Core	symbols, key terms, and other	Produce clear and coherent	Extend the knowledge of
	Standards booklet if you	domain specific words.	writingappropriate to task,	arithmetic operations and
	wish to add more Career	Standard CC.3.5.9-10.E	purpose, and audience.	apply to complex numbers.
	Pathways to meet the	Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E	Standard CC.3.6.9-10 D	
	needs of your local Area.	Analyze the structure of the	Standard CC.3.6.11-12.D	GEOMETRY
	needs of your local fired.	relationships among concepts in a	Develop and strengthen	Standard 2.3.HS.A.7
		text, etc.	writing as needed by	Apply trigonometric ratios to
		Standard CC.3.5.9-10.F	planning, revising, editing,	solve problems involving
		Standard CC.3.5.11-12.F	rewriting, or trying a new	right triangles.
		Analyze the author's purpose in	approach, focusing on	Standard 2.3.HS.A.3
		providing an explanation,	addressing what is most	Verify and apply geometric
		describing a procedureand	significant for a specific	theorems as they relate to
		Analyze the structure of the	purpose and audience.	Geometric figures.
		relationships among concepts in a	Standard CC.3.6.9-10.E	Standard 2.3.HS.A.13
		text.	Standard CC.3.6.11-12.E.	Analyze relationships
			Use technology, including	between two dimensional and
		INTEGRATE KNOWLEDGE	the internet, to produce,	three dimensional objects.
		& IDEAS	publish, and update individual or shared writing	_
		GRADES 9-10	products.	
		Standard CC.3.5.9-10.G	products.	
		Translate quantitative or technical	RESEARCH	
		information expressed in a text	GRADES 9-10-11-12	
		into visual form (e.g. a table or	Standard CC.3.6.9-10.F	
		chart).	Standard CC.3.6.11-12.F	
		Standard CC.3.5.9-10. H	Conduct short and more	
		Assess the reasoning in a text to	sustained research to answer	
		support the author's claim for	a question or solve a	
		solving a technical problem.	problem.	
		Standard CC.3.5.9-10. I	Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G	
		Compare and contrast findings	Gather relevant information	
		presented in a text to those from	from multiple authoritative	
		other sources, etc.	print and digital sources,	
		other sources, etc.	following a standard format	
			for citation.	
		J	101 CItation.	J

INTEGRATE IZNOMI EDGE	C4
INTEGRATE KNOWLEDGE	Standard CC.3.6.9-10.H.
& IDEAS	Standard CC.3.6.11-12.H.
GRADES 11-12	Draw evidence from
Standard CC.3.5.11-12. G	informational texts to support
Integrate and evaluate multiple	analysis, reflection, and
sources of information presented	research.
in diverse formatsto solve a	
problem.	RANGE OF WRITING
Standard CC.3.5.11-12. H	GRADES 9-10-11-12
Evaluate the hypotheses, data,	Standard CC.3.5.9-10.I &
analysis, and conclusions in a	Standard CC.3.5.71-12.I.
•	Write routinely over
technical text, verifying the data	
when possible.	extended time frames and
Standard CC.3.5.11-12. I	shorter time frames for a
Synthesize information from a	range of tasks, purposes and
range of sources into a coherent	audiencesetc.
understanding.	
RANGE OF READING	
GRADES 9-10-11-12	
Standard CC.3.5.9-10.J	
Standard CC.3.5.11-12.J	
By the end of grades 9- 10, AND	
11-12, read and comprehend	
technical texts independently and	
proficiently.	

600	GRINDING MACHINES.				
601 602 603 604 605 606 607 608 609 610 611	Apply pedestal and surface grinding safety procedures. Identify parts of pedestal grinder. Test, mount and dress grinding wheels. Grind and sharpen tools. RESERVED RESERVED RESERVED Identify parts of surface grinder. Grind surfaces flat and parallel using a magnetic chuck. Grind work surfaces square with a vise or angle plate. Grind precision angles using a sine plate or sine bar.	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE:	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on

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Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E

Analyze the structure of the relationships among concepts in a text. etc.

Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F

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INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10

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Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12

Standard CC.3.5.11-12. G

Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.

Standard CC.3.5.11-12. H

Evaluate the hypotheses, data, analysis, and conclusions in a

Standard CC.3.6.11-12 C

Produce clear and coherent writing...appropriate to task, purpose, and audience.

Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E.

Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.

Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H.

Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.1 &

measurement when reporting quantities.

Standard 2.1.HS.F.6

Extend the knowledge of arithmetic operations and apply to complex numbers.

ALGEBRA

Standard 2.2.HS.C.9

Prove the Pythagorean identity and use it to calculate trigonometric ratios.

GEOMETRY

Standard 2.3.HS.A.7

Apply trigonometric ratios to solve problems involving right triangles.

Standard 2.3.HS.A.3

Verify and apply geometric theorems as they relate to Geometric figures.

Standard 2.3.HS.A.13

Analyze relationships between two dimensional and three dimensional objects.

technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.	Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiencesetc.	
RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.		

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700	LATHES.				
701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719	Apply lathe safety procedures. Mount and indicate work piece in 3-jaw and 4-jaw chucks. Align centers. Face work piece. RESERVED Turn inside and outside diameters to shoulders. Turn tapers. Demonstrate knurling. Part off and groove workpiece. Cut internal and external threads. RESERVED File and polish workpiece. RESERVED Perform boring operations. Install and remove tool holders. Use a collet attachment. RESERVED RESERVED Select gears for lathe operations.	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.9-10. A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.9-10 B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.9-10. D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers. GEOMETRY Standard 2.3.HS.A.7

solve problems involving Analyze the author's purpose in addressing what is most providing an explanation, significant for a specific right triangles. describing a procedure...and purpose and audience. Standard 2.3.HS.A.3 Analyze the structure of the Standard CC.3.6.9-10.E Verify and apply geometric relationships among concepts in a Standard CC.3.6.11-12.E. theorems as they relate to Geometric figures. Use technology, including Standard 2.3.HS.A.13 the internet, to produce, publish, and update INTEGRATE KNOWLEDGE Analyze relationships individual or shared writing & IDEAS between two dimensional and products. three dimensional objects. **GRADES 9-10 Standard CC.3.5.9-10.G** RESEARCH Translate quantitative or technical **GRADES 9-10-11-12** information expressed in a text Standard CC.3.6.9-10.F into visual form (e.g. a table or Standard CC.3.6.11-12.F chart). Conduct short and more Standard CC.3.5.9-10. H sustained research to answer a question or solve a Assess the reasoning in a text to problem. support the author's claim for **Standard CC.3.6.9-10.G.** solving a technical problem. Standard CC.3.6.11-12.G Standard CC.3.5.9-10. I Gather relevant information Compare and contrast findings from multiple authoritative presented in a text to those from print and digital sources, other sources, etc. following a standard format for citation. INTEGRATE KNOWLEDGE Standard CC.3.6.9-10.H. & IDEAS Standard CC.3.6.11-12.H. Draw evidence from **GRADES 11-12** Standard CC.3.5.11-12. G informational texts to support analysis, reflection, and Integrate and evaluate multiple sources of information presented research. in diverse formats...to solve a RANGE OF WRITING problem. Standard CC.3.5.11-12. H **GRADES 9-10-11-12** Standard CC.3.5.9-10.I & Evaluate the hypotheses, data, analysis, and conclusions in a Standard CC.3.5.11-12.I. technical text, verifying the data Write routinely over when possible. extended time frames and Standard CC.3.5.11-12. I shorter time frames for a Synthesize information from a range of tasks, purposes and range of sources into a coherent audiences...etc. understanding. RANGE OF READING **GRADES 9-10-11-12**

Standard CC.3.5.11-12.F

approach, focusing on

Apply trigonometric ratios to

800 801 802 803 804 805 806 807	MILLING MACHINES. Apply milling machine safety procedures. Tram a milling head. Mount and indicate vise. Mill angles. Mill keyways. RESERVED RESERVED	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7	Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently. KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
808 809 810 811 812 813 814 815	RESERVED Use an edge finder. Differentiate between climb milling and conventional milling. Use an adjustable boring head. RESERVED Install and remove cutting tool holders. Select cutter for milling operations. Square part.	CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedureand Analyze the structure of the relationships among concepts in a text.	Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update	Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers. ALGEBRA Standard 2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context. Standard 2.2.HS.D.2 Write expressions in equivalent forms to solve problems. Standard 2.2.HS.D.3

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10

Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).

Standard CC.3.5.9-10. H

Assess the reasoning in a text to support the author's claim for solving a technical problem.

Standard CC.3.5.9-10. I

Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12

Standard CC.3.5.11-12. G

Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.

Standard CC.3.5.11-12. H

Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I

Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12

Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J

By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.

individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.

Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H.

Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.1 &

Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Extend the knowledge of arithmetic operations and apply to polynomials.

Standard HS.D.4

Demonstrate the relationship between zeros and polynomials to make generalizations about functions and their graphs.

Standard 2.2.HS.D.5

Use polynomial identities to solve problems.

Standard 2.2.HS.D.6

Extend the knowledge of rational functions to rewrite in equivalent forms.

Standard 2.2.HS.D.7

Create and graph equations or inequalities to describe numbers or relationships.

Standard 2.2.HS.D.8

Apply inverse operations to solve equations or formulas for a given variable.

Standard 2.2.HS.D.9

Use reasoning to solve equations and justify the solution method.

Standard 2.2.HS.D.10

Represent, solve and interpret equations/inequalities and systems of equations and inequalities.

ALGEBRA

Standard 2.2.HS.C.1

Use the concept and notation of functions to interpret and apply them in terms of their context.

Standard 2.2.HS.C.2

Graph and analyze functions. **Standard 2.2.HS.C.3**

	Write functions or sequences
	that model relationships
	between two quantities.
	Standard 2.2.HS.C.4
	Interpret the effects
	transformations have on
	functions and find the
	inverses of functions.
	Standard2.2.HS.C.5
	Construct and compare
	linear, quadratic and
	exponential models to solve
	problems.
	Standard 2.2.HS.C.6
	Interpret functions in terms
	of the situation they model.
	Standard 2.2.HS.C7 Apply
	radian measure of an angle
	and the unit circle to analyze
	the trigonometric functions.
	Standard 2.2.HS.C.8
	Choose trigonometric
	functions to model periodic
	phenomena and describe the
	properties of the graphs.
	Standard 2.2.HS.C.9 Prove
	the Pythagorean identity and
	use it to calculate
	trigonometric ratios.
	urgonometre ratios.
	GEOMETRY
	Standard 2.3.HS.A.1
	Use geometric figures and
	their properties to represent
	transformations in the plane.
	Standard 2.3.HS.A.2
	Apply rigid transformations
	to determine and explain
	congruence.
	Standard 2.3.HS.A.3
	Verify and apply geometric
	theorems as they relate to
	geometric figures.
	Standard 2.3.HS.A.4

	Apply the concept of
	congruence to create
	geometric constructions.
	Standard 2.3.HS.A.5
	Create justifications based on
	transformations to establish
	similarity of plane figures.
	Standard 2.3.HS.A.6
	Verify and apply theorems
	involving similarity as they
	relate to plane figures.
	Standard 2.3.HS.A.7
	Apply trigonometric ratios to
	solve problems involving
	right triangles.
	Standard 2.3.HS.A.8
	Apply geometric theorems to
	verify properties of circles.
	Standard 2.3.HS.A.9
	Extend the concept of
	similarity to determine arc
	lengths and areas of sectors
	of circles.
	Standard 2.3.HS.A.10
	Translate between the
	geometric description and the
	equation for a conic section.
	Standard 2.3.HS.A.11
	Apply coordinate geometry
	to prove simple geometric
	theorems algebraically.
	Standard 2.3.HS.A.12
	Explain volume formulas and
	use them to solve problems.
	Standard 2.3.HS.A.13
	Analyze relationships
	between two dimensional and
	three dimensional objects.
	Standard 2.3.HS.A.14
	Apply geometric concepts to
	model and solve real world
	problems.

900	POWER SAW.				
901 902 903 904 905 906	Apply power saw safety procedures. RESERVED Follow the 3-tooth rule. Saw work piece. RESERVED	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.9-10. A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedureand Analyze the structure of the relationships among concepts in a text. INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.9-10.C Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

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in a text into visual form (e.g. a	Conduct short and more
table or chart).	sustained research to answer a
Standard CC.3.5.9-10. H	question or solve a problem.
Assess the reasoning in a text to	Standard CC.3.6.9-10.G.
support the author's claim for	Standard CC.3.6.11-12.G
solving a technical problem.	Gather relevant information
	from multiple authoritative
Standard CC.3.5.9-10. I	print and digital sources,
Compare and contrast findings	following a standard format
presented in a text to those from	for citation.
other sources, etc.	Standard CC.3.6.9-10.H.
	Standard CC.3.6.11-12.H.
INTEGRATE KNOWLEDGE	Draw evidence from
& IDEAS	informational texts to support
GRADES 11-12	analysis, reflection, and
Standard CC.3.5.11-12. G	research.
Integrate and evaluate multiple	
sources of information presented	RANGE OF WRITING
in diverse formatsto solve a	GRADES 9-10-11-12
problem.	Standard CC.3.5.9-10.I &
Standard CC.3.5.11-12. H	Standard CC.3.5.11-12.I.
Evaluate the hypotheses, data,	Write routinely over extended
analysis, and conclusions in a	time frames and shorter time
technical text, verifying the data	frames for a range of tasks,
when possible.	purposes and audiencesetc.
Standard CC.3.5.11-12. I	
Synthesize information from a	
range of sources into a coherent	
understanding.	
RANGE OF READING	
GRADES 9-10-11-12	
Standard CC.3.5.9-10.J	
Standard CC.3.5.11-12.J	
By the end of grades 9- 10, AND	
11-12, read and comprehend	
technical texts independently and	
proficiently.	
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1000 MACHINES AND TOOLS.				
 1001 Lubricate and maintain machinery. 1002 Clean and store equipment. 1003 Inspect machine guards. 1004 RESERVED 1005 RESERVED 	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards)	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc.	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to

1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE:

Maintenance, Installation and Repair Career Pathway

(Choose Standards) 1-2-3-4-5-6

NOTE:

Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.

Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B

Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex

CRAFT & STRUCTURE GRADES 9-10-11-12

multistep procedure, etc.

Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D

Determine the meaning of symbols, key terms, and other domain specific words.

Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E

Analyze the structure of the relationships among concepts in a text, etc.

Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F

Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10

Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).

Standard CC.3.5.9-10. H

Assess the reasoning in a text to support the author's claim for solving a technical problem.

Standard CC.3.5.9-10. I

Write arguments focused on discipline specific content.

Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B

Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C

Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.

Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and addinged.

Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E.

Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

solve real world or mathematical problems.

Standard 2.1.HS.F.4

Use units as a way to understand problems and to guide the solution of multistep problems.

Standard 2.1.HS.F.5

Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Standard 2.1.HS.F.6

Extend the knowledge of arithmetic operations and apply to complex numbers.

	Compare and contrast findings presented in a text to those from other sources, etc. INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formatsto solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.	Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research. RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiencesetc.	
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1100 METALLURGY.				
 1101 Identify metals classifications. 1102 Identify metal property applications. 1103 Identify heat-treating and annealing processes. 	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards)	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.

1-2-3-4-5-6 PRODUCTION & Standard 2.1.HS.F.5 CRAFT & STRUCTURE DISTRIBUTION OF Choose a level of accuracy **GRADES 9-10-11-12** WRITING appropriate to limitations on NOTE: Standard CC.3.5.9-10. D **GRADES 9-10-11-12** measurement when reporting Refer to the Common Standard CC.3.5.11-12.D Standard CC.3.6.9-10.C quantities. **Career Technical Core** Determine the meaning of Standard CC.3.6.11-12 C Standard 2.1.HS.F.6 Standards booklet if you symbols, key terms, and other Produce clear and coherent wish to add more Career Extend the knowledge of domain specific words. writing...appropriate to task, Pathways to meet the arithmetic operations and purpose, and audience. Standard CC.3.5.9-10.E needs of your local Area. apply to complex numbers. Standard CC.3.6.9-10 D Standard CC.3.5.11-12.E Standard CC.3.6.11-12.D Analyze the structure of the Develop and strengthen relationships among concepts in a writing as needed by text, etc. planning, revising, editing, **Standard CC.3.5.9-10.F** rewriting, or trying a new Standard CC.3.5.11-12.F approach, focusing on Analyze the author's purpose in addressing what is most providing an explanation, significant for a specific describing a procedure...and purpose and audience. Analyze the structure of the **Standard CC.3.6.9-10.E** relationships among concepts in a Standard CC.3.6.11-12.E. Use technology, including INTEGRATE KNOWLEDGE the internet, to produce, & IDEAS publish, and update **GRADES 9-10** individual or shared writing Standard CC.3.5.9-10.G products. Translate quantitative or technical information expressed in a text RESEARCH into visual form (e.g. a table or **GRADES 9-10-11-12** Standard CC.3.6.9-10.F chart). Standard CC.3.6.11-12.F Standard CC.3.5.9-10. H Conduct short and more Assess the reasoning in a text to sustained research to answer support the author's claim for a question or solve a solving a technical problem. problem. Standard CC.3.5.9-10. I **Standard CC.3.6.9-10.G.** Compare and contrast findings Standard CC.3.6.11-12.G presented in a text to those from Gather relevant information other sources, etc. from multiple authoritative print and digital sources, following a standard format INTEGRATE KNOWLEDGE for citation. & IDEAS Standard CC.3.6.9-10.H. **GRADES 11-12** Standard CC.3.6.11-12.H. Standard CC.3.5.11-12. G Draw evidence from Integrate and evaluate multiple informational texts to support sources of information presented

in diverse formatsto solve a	analysis, reflection, and
problem.	research.
Standard CC.3.5.11-12. H	
Evaluate the hypotheses, data,	RANGE OF WRITING
analysis, and conclusions in a	GRADES 9-10-11-12
technical text, verifying the data	Standard CC.3.5.9-10.I &
when possible.	Standard CC.3.5.11-12.I.
Standard CC.3.5.11-12. I	Write routinely over
Synthesize information from a	extended time frames and
range of sources into a coherent	shorter time frames for a
understanding.	range of tasks, purposes and
	audiencesetc.
RANGE OF READING	
GRADES 9-10-11-12	
Standard CC.3.5.9-10.J	
Standard CC.3.5.11-12.J	
By the end of grades 9- 10, AND	
11-12, read and comprehend	
technical texts independently and	
proficiently.	

 1200 CHARTS AND REFERENCES. 1201 Use the decimal equivalent chart. 1202 Calculate speeds and feeds. 1203 Use tap and drill charts. 1204 Use Machinery Handbook and/or shop references to locate information. 	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc.	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4
	INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E	Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D	Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

Standard CC.3.5.11-12.E

Analyze the structure of the relationships among concepts in a text, etc.

Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F

Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10

Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).

Standard CC.3.5.9-10. H

Assess the reasoning in a text to support the author's claim for solving a technical problem.

Standard CC.3.5.9-10. I

Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12

Standard CC.3.5.11-12. G

Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.

Standard CC.3.5.11-12. H

Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I

Standard CC.3.6.11-12.D

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Standard CC.3.6.9-10.E

Standard CC.3.6.11-12.E.

Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.

Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H.

Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I.

Write routinely over extended time frames and shorter time frames for a

		Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.	range of tasks, purposes and audiencesetc.	
1300 BLUEPRINT READING. 1301 Identify orthographic views and projections. 1302 RESERVED 1303 Identify the alphabet of lines and symbols. 1304 RESERVED 1305 Calculate material sizes. 1306 Differentiate angle projections. 1307 RESERVED 1308 Interpret title block information.	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.9-10. A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
	Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F	Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most	Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).

Standard CC.3.5.9-10. H

Assess the reasoning in a text to support the author's claim for solving a technical problem.

Standard CC.3.5.9-10. I

Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12

Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.

Standard CC.3.5.11-12. H

Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I

Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J

purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce,

significant for a specific

the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.

Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H.

Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I.

Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

1400 CNC PROGRAMMING. 1401 Apply CNC safety procedures. 1402 Use G and M codes. 1403 RESERVED 1404 Use of Cartesian coordinate systems. 1405 RESERVED 1406 Prove a CNC program. 1407 RESERVED 1408 RESERVED 1409 Set part zero and tool offsets. 1410 Transfer data files to and from a CNC machine. 1411 Use CNC control functions. 1412 RESERVED	CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6 NOTE: Refer to the Common Career Technical Core Standards booklet if you wish to add more Career Pathways to meet the needs of your local Area.	Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently. KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.9-10. A Standard CC.3.5.9-10 B Standard CC.3.5.9-10 B Standard CC.3.5.11-12.B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.9-10. D Standard CC.3.5.9-10.E Standard CC.3.5.9-10.E Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedureand Analyze the structure of the relationships among concepts in a text.	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writingappropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.9-10.E Standard CC.3.6.9-10.E Use technology, including the internet, to produce,	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers. ALGEBRA Standard 2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context. Standard 2.2.HS.D.2 Write expressions in equivalent forms to solve problems. Standard 2.2.HS.D.3 Extend the knowledge of
		INTEGRATE KNOWLEDGE & IDEAS	the internet, to produce, publish, and update	Extend the knowledge of arithmetic operations and apply to polynomials.

GRADES 9-10

Standard CC.3.5.9-10.G

Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).

Standard CC.3.5.9-10. H

Assess the reasoning in a text to support the author's claim for solving a technical problem.

Standard CC.3.5.9-10. I

Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12

Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.

Standard CC.3.5.11-12. H

Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I

Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J

By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.

individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F

Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G

Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.

Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H.

Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.1 &

Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Standard HS.D.4

Demonstrate the relationship between zeros and polynomials to make generalizations about functions and their graphs.

Standard 2.2.HS.D.5

Use polynomial identities to solve problems.

Standard 2.2.HS.D.6

Extend the knowledge of rational functions to rewrite in equivalent forms.

Standard 2.2.HS.D.7

Create and graph equations or inequalities to describe numbers or relationships.

Standard 2.2.HS.D.8

Apply inverse operations to solve equations or formulas for a given variable.

Standard 2.2.HS.D.9

Use reasoning to solve equations and justify the solution method.

Standard 2.2.HS.D.10

Represent, solve and interpret equations/inequalities and systems of equations and inequalities.

ALGEBRA

Standard 2.2.HS.C.1

Use the concept and notation of functions to interpret and apply them in terms of their context.

Standard 2.2.HS.C.2

Graph and analyze functions.

Standard 2.2.HS.C.3

Write functions or sequences that model relationships between two quantities.

Standard 2.2.HS.C.4

	Interpret the effects
	transformations have on
	functions and find the inverses
	of functions.
	CC Standard2.2.HS.C.5
	Construct and compare linear,
	quadratic and exponential
	models to solve problems.
	Standard 2.2.HS.C.6
	Interpret functions in terms of
	the situation they model.
	Standard 2.2.HS.C7
	Apply radian measure of an
	angle and the unit circle to
	analyze the trigonometric
	functions.
	Standard 2.2.HS.C.8
	Choose trigonometric
	functions to model periodic
	phenomena and describe the
	properties of the graphs.
	Standard 2.2.HS.C.9
	Prove the Pythagorean identity
	and use it to calculate
	trigonometric ratios.
	GEOMETRY
	Standard 2.3.HS.A.1
	Use geometric figures and
	their properties to represent
	transformations in the plane.
	Standard 2.3.HS.A.2
	Apply rigid transformations to
	determine and explain
	congruence.
	Standard 2.3.HS.A.3
	Verify and apply geometric
	theorems as they relate to
	geometric figures.
	Standard 2.3.HS.A.4
	Apply the concept of
	congruence to create
	geometric constructions.

Create justifications bat transformations to estat similarity of plane figure Standard 2.3.HS.A.6 Verify and apply theore involving similarity as relate to plane figures. Standard 2.3.HS.A.7 Apply trigonometric rasolve problems involvi triangles. Standard 2.3.HS.A.8 Apply geometric theore verify properties of circ Standard 2.3.HS.A.9 Extend the concept of similarity to determine lengths and areas of secircles. Standard 2.3.HS.A.10	lish es. ms hey ios to
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circles. Standard 2.3.HS.A.10	ırc
Standard 2.3.HS.A.10	ors of
Translate between the	
geometric description a	
equation for a conic sec	ion.
Standard 2.3.HS.A.11	
Apply coordinate geom	
prove simple geometric	
theorems algebraically.	
Standard 2.3.HS.A.12	
Explain volume formul	
use them to solve problem.	ms.
Standard 2.3.HS.A.13	
Analyze relationships to	
two dimensional and the	ee
dimensional objects.	
Standard 2.3.HS.A.14	
Apply geometric conce	
model and solve real w	orld
problems.	1