PACING Guide SY 2015-2016

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
1 st Quarter Science Fusion Unit 1: How Scientists Work	<u>Strand 1: Inquiry Process</u> <u>Concept 1: Observations, Questions,</u> <u>and Hypotheses</u> <u>PO 1</u> . Compare common objects using multiple senses.	What are senses? What body part do you use for each sense? What can you find out using senses?	Identify all five senses. Identify which part of the body is used for each sense. Describe objects using all five senses.	Five senses Hearing Sight Taste Touch Smell Compare
Lessons 1, 2, 3 & 4		What is observation?	Compare objects using all five senses.	Similar/Alike Different
1 st Quarter Science Fusion Unit 1: How Scientists Work Lessons 1, 2, 3, & 4	PO 2. Ask questions based on experience with objects, organisms, and events in the environment.	What are inquiry skills? What are inquiry skills used for? What can you learn from each inquiry skill? How do you ask a scientific question?	Identify different kinds of inquiry skills. Describe each inquiry skills. Use inquiry skills to ask scientific questions.	Environment Inquiry Skills Scientific questions
1 st Quarter Science	PO 3. Predict results of an investigation based on life, physical, and Earth and space sciences (e.g.,	What is an investigation?	Identify the steps of a scientific investigation.	Predict Infer Conclusion

PACING Guide SY 2015-2016

Fusion	animal life cycles, physical	What are the steps of a	Describe each step of a scientific	Investigation
Unit 1: How	properties, Earth materials).	scientific investigation?	investigation.	Hypothesis
Scientists	(teach "predict" concept)	A		Report/Record
Work		What inquiry skills are	Make predictions about an	Results
Lessons 1, 2,		needed for each step of	investigation.	
3, 4, & 5	15	a scientific		
		investigation?	Perform a scientific	
			investigation.	
	and and a second	What is a prediction?	Charles .	
		How do you test a		
		hypothesis?		
1 st Quarter	Strand 1: Inquiry Process	What are science	Identify rules and procedures in	Rules
	<u>Concept 2: Scientific Testing</u>	inquiry rules?	scientific investigations.	Responsibility
Science	<u>(Investigating and Modeling)</u>			Science tools
Fusion	<u>PO 1.</u> Demonstrate safe behavior and	What is proper	Identify safe beh <mark>a</mark> vior when	Safety
Unit 1: How	appr <mark>opriate procedures</mark> (e.g., use of	behavior when	using science to <mark>o</mark> ls.	Science inquiry
Do Scientists	instruments, materials, organisms) in	performing science		
Work	all science inquiry.	inquiry?	Describe how to use science	
Lesson 1 & 5		SELF 4 SOLIAL	tools properly.	
		How do you use		
		science tools properly?	Describe the importance of safe	
			behavior and appropriate	
			procedures in science inquiry.	
1 st Quarter	PO 2. Participate in guided	What was the purpose	Use inquiry skills to participate	Investigation
	investigations in life, physical, and	of your scientific	in a guided investigation.	Scientific method
Science	Earth and space sciences.	investigation?		Problem
Fusion			Record and share results of a	Solution
Unit 1: How		What was the outcome	scientific investigation.	Design

Do Scientists Work Lessons 1, 2, 3, 4, & 5 (Apply skills in other units)		of your scientific investigation? What did you learn from your scientific investigation?	Perform a scientific investigation with guidance from the teacher.	Results/Record
1st Quarter Science Fusion	PO 3. Use simple tools such as rulers, thermometers, magnifiers, and balances to collect data (U.S. customary units).	What is data? What kind of science tool is used to measure	Identify different science tools. Describe the use of each science tool.	Measure Data Ruler Thermometer
Unit 1: How Do Scientists Work Lessons 1, 2, & 3 -rulers, thermometer, magnifier, balance, measuring tape, scale, etc.	HESPERT A	length, weight, temperature, etc.? What are units of measurement (inch, feet, meter, yard, etc.)?	Record data using different science tools.	Magnifier Balance Weight Length Inch/foot Yard/mile ounce/pound Cup/gallon/quart
1 st Quarter	PO 4. Record data from guided	What is the purpose of	Record data from a scientific	Lab book
Science Fusion	investigations in an organized and appropriate format (e.g., lab book, log, notebook, chart paper).	a lab book/science notebook?	investigation in a lab book or science notebook.	Term/vocabulary Definition Diagram
	appropriate format (e.g., lab book,			Definition

PACING Guide SY 2015-2016

Begin in Unit 1 -lab notebook		organize data (graphic organizers)?	etc. to record data from a scientific investigation.	Record/report
1 st Quarter Science Fusion Unit 1: How Do Scientist Work Lessons 3 & 4	Strand 1: Inquiry Process Concept 3: Analysis and Conclusions PO 1. Organize (e.g., compare, classify, and sequence) objects, organisms, and events according to various characteristics.	How can you organize things? What inquiry skills do you use to organize objects, organisms, and events? What graphic organizers can you use	Identify characteristics of organisms, objects, and events. Compare organisms, objects, and events based on characteristics. Organize organisms, objects, and events on a table, graph, etc.	Organize Sort Classify Sequence Characteristics Similar/alike Different Groups Attributes: color, size, shape, number, etc.
1 st Quarter -Science Fusion Unit 1: How Do Scientists Work Lesson 5 -Inquiry Flipchart pgs. 2-6	PO 2. Compare the results of the investigations to predictions made prior to the investigation.	to organize things? What is a prediction? What are the steps of an investigation? How are the results of an investigation and your predication similar/different?	Make a prediction as part of an investigation. Perform an investigation. Compare results of an investigation with your predictions.	Hypothesis Conclusion Test Compare Investigation Prediction
1 st Quarter -Science	<u>Strand 1: Inquiry Process</u> <u>Concept 4: Communication</u> <u>PO 1</u> . Communicate the results of an	What are the results of an investigation?	Perform a scientific investigation.	Record/results Communicate Picture

PACING Guide SY 2015-2016

Fusion Unit 1: How Do Scientists Work Lesson 5 -Inquiry Flipcharts pgs. 2-6	investigations using pictures, graphs, models, and/or words.	How can you communicate results of an investigation? Who are you sharing your results of an investigation with?	Record results of a scientific investigation. Share the results of an investigation with an audience.	Graph Model Diagram
1 st Quarter Science Fusion Unit 1: How Do Scientists Work -Lessons 4 & 5 Unit 2: Technology All Around Us -Lessons 1 & 2 -Inquiry Flipchart pgs. 5-8	PO 2. Communicate with other groups to describe the results of an investigation.	What are ways you can communicate your results of a scientific investigation? How can you share your results with other groups? What is similar/different between the results of your investigation to the results of other groups?	Communicate results of a scientific investigation with peers, specific audience, or other groups. Describe the results of a scientific investigation with others. Compare and contrast your results of a scientific investigation with another group's results.	Record/results Communicate Investigation Conclusion
1 st Quarter	<u>Strand 3: Science in Personal and</u> <u>Social Perspectives</u>	What are some scientific tools?	Identify scientific tools.	Science tools Observations

PACING Guide SY 2015-2016

Science Fusion Unit 1: How Do Scientists Work Lessons 1, 2, & 3	<u>Concept 2: Science and Technology in</u> <u>Society</u> <u>PO 2</u> . Describe how suitable tools (e.g., magnifiers, thermometers) help make better observations and measurements.	What do these tools measure? How do these tools help you with your scientific investigation?	Describe what scientific tools do. Describe how these scientific tools help your investigation.	Measurements Senses Thermometer Magnifier Balance Scale Tape measure Ruler
Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
2 nd Quarter Science Fusion Unit 3: Animals -Lessons 1 & 2	Strand 4: Life ScienceConcept 1: Characteristics ofOrganismsPO 1. Identify the following ascharacteristics of living things:• Growth and development• Reproduction• Response to stimulus	What is a living thing? Non-living thing? What kinds of things are living things? What are needs? What are characteristics of living things? Non-living things?	Identify the characteristics of a living thing. Describe the characteristics of a living thing. Determine if a thing is living or non-living. Identify living things in your environment. Identify non-living things in your environment.	Living thing Non-living things Needs: shelter, water, food, space, sunlight, air Growth Reproduction Plants Animals People Habitat
2 nd Quarter	PO 2. Compare the following	What are parts of living	Compare features/attributes of	Living things
Science Fusion	 observable features of living things: Movement-legs, wings 	things? Animals? Plants?	living things. Group animals into groups	Animal groups Movement Body coverings

PACING Guide SY 2015-2016

Unit 3: Animals -Lessons 1, 2,	 Protection-skin, feathers, tree bark Respiration- lungs, gills 	What do parts of an animal do?	based on similar/different features/attributes.	Body parts Respiration Animal parts
3, & 4	 Support- plant stems, tree 	What do parts of a	Identify the purposes of features	Plant parts
Unit 4: Plants -Lessons 1, 2,	trunks	plant do?	of living things.	Organs
3, 4, & 5		How are the parts of a		
		plant and parts of an		
		animal similar/different?		
2 nd Quarter	<u>PO 3.</u> Identify observable similarities	What are the different	Identify different animals groups	Animal groups
	and differences (e.g. <mark>, n</mark> umber of legs,	animal groups?	(insects, birds, mammals,	Mammals
Science	body coverings, size)		reptiles, amphibians, & fish).	Reptiles
Fusion	between/among different groups of	What are the		Fish
Unit 3:	animals.	characteristics or	Identify characteristics of	Birds
Animals Lessons 3 & 4		features of animals in each animal group?	animals in each animal group.	Amphibians Insects
			Compare characteristics of	Body coverings
		Why does an animal	animals within an animal group.	Characteristics
		belong to a certain	Company characteristics of	
		group?	Compare characteristics of animals between different	
		Why do we group	animals between unterent animals groups.	
		animals?	animais groups.	
2nd Quarter	Strand 4: Life Science	What is a cycle?	Describe a cycle.	Life cycle
	<u>Concept 2: Life Cycles</u>			Cycle
	PO 1. Identify stages of human life	What are the stages of	Identify the stages of the human	Stages
	(e.g., infancy, adolescence,	the human life cycle?	life cycle.	Infant, adolescence,

PACING Guide SY 2015-2016

	adulthood).	How is a human life cycle similar/different	Describe each stage in the	adult Develop
		to animal life cycles?	human life cycle.	Human
			Compare/contrast a human life cycle to an animal life cycle.	
2 nd Quarter	PO 2. Identify similarities and	How are animals	Identify similarities and	Relationship
	differences between animals and	similar/different from	differences between animals and	Adult, parent
	their parents.	their parents?	their parents.	Infant, offspring
	1 230			Traits
		Why does an animal	Identify reasons an animal is	Physical features
	<u> </u>	look similar/different	similar/different from their	Life cycle
	HESPELT	from their parents?	parents.	
2 nd Quarter	<u>Strand 4: Life Science</u>	What is a habitat?	Identify the local environment.	Environment
	<u>Concept 3: Organisms and</u>	What is an	11	Habitat
Science	<u>Environments</u>	environment?	Describe the lo <mark>ca</mark> l environment.	Plants/animals
Fusion	<u>PO 1</u> . Identify some plants and	1-4	1 Annual I	Organisms
Unit 4: Plants	animals that exist in the local	What i <mark>s the local</mark>	Identify plan <mark>ts</mark> and animals that	Desert, grassland,
-Lessons 1, 2,	environment.	environment?	can be found in our local	plateau, mountains
3, 4, and 5		11.10.11.11.11.11.11.11.11	environment.	
Unit 5:		What kinds of animals		
Environments		and plants are found in	Compare/contrast plants found	
-Lessons 1, 2		our environment?	in our environment to others	
			found in different environments.	
2 nd Quarter	PO 2. Compare the habitats (e.g.,	What is a habitat?	Identify the different kinds of	Habitat
	desert, forest, prairie, water,		habitats.	Environment
Science	underground) in which plants and	What are the		Desert, forest, prairie,
Fusion	animals live.	characteristics of	Describe each kind of habitat.	ocean, grassland

PACING Guide SY 2015-2016

Unit 5:		different habitats?	Sec.	
Environments			Identify plants and animals	
Lessons 1, 2		What kinds of plants	found in different kinds of	
		and animals live in a	habitats.	
		desert, forest, prairie,		
		ocean, etc.?	Compare characteristics, plants, and animals of different habitats.	
		Why do these plants and animals live in their specific habitat?		
2 nd Quarter	PO 3 . Describe how plants and	How do some animals	Describe how plants and animals	Habitat
	animals within a habitat are	and plants work	work together in an	Co-dependent
Science	dependent on each o <mark>t</mark> her.	together?	environment.	Plants/animals
Fusion	RI 121 RI 40 40 1			Relationship
Unit 5:		In what ways can a	Describe how a <mark>plant helps an</mark>	
Environments		plant and animal help	animal.	
Lesson 1		each other?		
		<u></u>	Describe how an animal helps a	
T: 1: 0		Essential Oscertian	plant.	V had some
Timeline &	AZ College and Career Readiness	Essential Question	Learning Goal	Vocabulary
Resources	Standard	(HESS Matrix)		(Content/Academic)
3 rd Quarter	Strand 6: Earth and Space Science	What is the Earth made	Identify basic Earth materials.	Earth
Calana	<u>Concept 1: Properties of Earth</u>	of?		Earth surface
Science	<u>Materials</u>		Describe what kinds of materials	Materials
Fusion	PO 1 . Describe the following basic	What materials are	are found on the Earth's surface.	Rock
Unit 6:	Earth materials:	found on Earth's	Common (combined difference)	Soil: sand, clay,
Earth's	Rocks	surface?	Compare/contrast different	humus, dirt Water
Resources			Earth materials.	Water

-Lessons 1, 2,	• Soil	How are these	~	
3, 4, 5, & 6	• Water	materials similar/different from each other?		
3 rd Quarter Science Fusion Unit 6: Earth's Resources -Lessons 1, 2, 3, 4, 5, & 6	 PO 2. Compare the following physical properties of basic Earth materials: Color Texture Capacity to retain water 	What are the basic Earth materials? What are the physical properties of basic Earth materials? How are basic Earth materials similar/different from basic Earth materials?	Identify basic Earth Materials. Describe the color, texture, and other attributes of basic Earth materials. Compare the physical properties of basic Earth materials.	Physical properties Earth materials: soil, water, rock Traits Texture Compare/contrast
3 rd Quarter Science Fusion Unit 2: Technologies All Around Us Lessons 3 & 4	PO 3. Identify common uses (e.g., construction, decoration) of basic Earth materials (i.e., rocks, water, soil).	What are basic Earth materials? What can you use basic Earth materials for? What can you make out of basic Earth	Identify basic Earth materials. Identify uses for basic earth materials. Describe things found in your environment that are made out of basic Earth materials.	Earth materials Natural resource Human-made Basic uses
3 rd Quarter Science Fusion	<u>PO 4.</u> Identify the following as being natural resources:Air	materials? What are natural resources? What are human-made	Identify natural resources. Describe natural resources.	Natural resources: air, water, soil, trees, wildlife Human-made

Unit 2: Technologies Around Us Lessons 3 & 4 Unit 6: Earth's Resources Lessons 1, 2, 3, 4, 5, & 6	 Water Soil Trees Wildfire 	resources? Where can you find natural resources? What do we use natural resources for?	Identify where to find natural resources. Determine if a thing is a natural resource or human-made.	
3 rd Quarter	<u>PO 5.</u> Identify ways to conserve	What are natural	Identify natural resources.	Natural resource
Science Fusion Unit 6: Earth's Resources Lesson 6	natural resources (e.g., reduce, reuse, recycle, find alternatives).	resources? What is the importance of natural resources? What do we use natural resources for? What is recycle? Reduce? Reuse?	Describe natural resources. Identify ways to conserve natural resources. Describe ways to conserve natural resources (reduce, reuse, recycle).	Conservation Reduce Reuse Recycle Alternative energy
3 rd Quarter	Strand 6: Earth and Space Science	What is the sun?	Describe the importance of the	Sun
Science Fusion	<u>Concept 2: Objects in the Sky</u> <u>PO 1.</u> Identify evidence that the Sun is the natural source of heat and light	What do we need the sun for?	sun to the Earth. Identify what we get from the	Sky Stars Space
Unit 8:	on the Earth (e.g., warm surfaces,		sun.	Heat/light
Objects In the Sky	shadows, shade).	What things show us that the sun gives us	Identify evidence/ways we	Planets

-Lessons 1, 2, 3, & 4		light and heat?	know the sun gives the Earth light and heat (warm surfaces, shadows, shade).	
3 rd Quarter	PO 2. Compare celestial objects (e.g., Sun, Moon, stars) and transient	What are the objects found in the sky?	Identify celestial objects in the sky.	Sun Moon
Science	objects in the sky (e.g., clouds, birds,	Touriu in the sky:	SKy.	Stars
Fusion	airplanes, contrails).	How do the objects in	Describe celestial objects in the	Sky/Space
Unit 8:		the sky move?	sky.	Orbit
Objects in the	HISTORY A	A 11 1	TATAL PROPERTY AND A DESCRIPTION OF THE	Gravity
Sky -Lessons 1, 2,	REVER 4C	Are all objects in the sky the same?	Identify transient objects in the sky.	
& 3	a second a s	sky tile same:	SKy.	
-Inquiry		How are the sun, moon,	Describe transient objects in the	
Flipchart pgs.		and stars	sky.	
36-39		different/similar to		
		things like cloud, birds, and other things found	Compare celestial and transient objects in the sky.	
		in the sky?	objects in the sky.	
3 rd Quarter	PO 3. Describe observable changes	What are objects found	Identify and describe objects	Clouds
	that occur in the sky (e.g., clouds	in the sky?	found in the sky.	Sky
Science	forming and moving, the position of			Sun/moon/stars
Fusion	the Moon).	How do these objects	Describe how objects in the sky	Earth
Unit 8:		in the sky change?	change and move.	Orbit
Objects in the				Weather
Sky		How do these objects		Atmosphere

-Lessons 1, 2, & 3	/	in the sky move?		
-Inquiry Flipchart pgs.				
36-39				
3 rd Quarter	Strand 6: Earth and Space Science Concept 2: Objects in the Sky	What is weather?	Identify the different kinds of seasons.	Weather Seasons: winter, fall,
Science	<u>PO 1.</u> Identify the following	What are the kinds of		spring, summer
Fusion Unit 7:	characteristics of seasonal weather patterns:	seasons?	Identify the different kinds of weather.	Temperature Precipitation
Weather and	Temperature	What are the	weather	Wind
Seasons	• Type of procipitation	characteristics of each	Describe the different kinds of	Storms
-Lessons 1, 2,	Type of precipitationWind	season?	weather.	Weather tools:
& 3	REPERFACE	bouson		thermometer, wind
		What is temperature? Precipitation? Wind?	Describe the different kinds of seasons.	vane, wind sock, rain gauge
			Compare the different kinds of seasons and weather.	
3 rd Quarter	<u>PO 2</u> . Analyze how the weather	What are the different	Describe different kinds of	Weather
	affects daily activities.	kinds of weather?	weather and seasons.	Seasonal activities
Science			100	Weather patterns
Fusion		What are the different	Identify types of activities that	
Unit 7:		kinds of seasons?	are done in different types of	
Weather and			weather.	
Seasons		What are some		
-Lessons 1, 2,		activities you can do in	Determine what kinds of	
& 3		different types of	activities can be done in a	

		weather/seasons?	certain type of weather.	
Timeline &	AZ College and Career Readiness	Essential Question	Learning Goal	Vocabulary
Resources	Standard	(HESS Matrix)		(Content/Academic)
4 th Quarter	Strand 5: Physical Science	What is matter?	Define matter.	Matter
	<u>Concept 1: Properties of Objects and</u>			Properties
Science	<u>Materials</u>	What are properties of	Identify different properties of	Materials
Fusion	PO 1. Classify objects by the	matter? (size, shape,	matter.	Objects
Unit 9: All	following observation properties:	color, texture, weight)		Shape
About Matter	• Shape		Classify objects based on their	Texture
-Lesson 1, 2,	Texture	How can you classify	properties (size, shape, color,	Size
3, 4, & 5	• Size	objects based on their	texture, weight).	Color
	• Color	properties?		Weight
	Weight	2.0	CABERP	V
4 th Quarter Science Fusion Unit 9: All About Matter -Lesson 2	PO 2. Classify materials as solids or liquids.	What is a solid? Liquid? Gas? What are the characteristics of a solid? Liquid? Gas?	Identify the different types of matter (solid, liquid, gas). Describe the characteristics of the different types of matter (solid, liquid, gas). Classify objects as a solid, liquid, or a gas.	Materials Properties Solid Liquid Gas
4 th Quarter	<u>Strand 5: Physical Science</u>	What is energy?	Describe what moves an object	Movement: straight,
	Concept 2: Position and Motion of		(force and energy).	zigzag, back-and-
Science	<u>Objects</u>	What is force?		forth, round-and-
Fusion	<u>PO 1</u> . Demonstrate the various ways		Describe ways an object can	round, fast, slow
Unit 10:	that objects can move (e.g., straight	What moves an object?	move (straight, zigzag, back-and-	Position

Forces and	line, zigzag, back-and-forth, round-	/	forth, round-and-round, fast,	Force
Energy	and-round, fast, slow).	How can an object	slow).	Gravity
-Lessons 1, 2,		move?		
3			Demonstrate ways an object	
			moves.	
4 th Quarter	<u>Strand 2: History and Nature of</u>	What is science?	Describe how we use science in	Scientist
	<u>Science</u>	FM, 50C St()	our everyday lif <mark>e</mark> .	Engineer
Science	<u>Concept 1: History of Science as a</u>	Who uses science?		History
Fusion	<u>Human Endeavor</u>		Describe people who use science	STEM
All Units	<u>PO 1</u> . Give examples of how diverse	How do we use science	in their daily life.	Science
"People in	people (e.g., children, parents,	every day?		
Science"	weather reporters, cooks, healthcare	4	Give examples of people who use	100
	workers, gardeners) use science in		science every day.	
	daily life.			
4 th Quarter	<u>PO 2.</u> Identify how diverse people	Who are some famous	Identify some fa <mark>m</mark> ous scientists.	History
	and/or cultures, past and present,	scientists?		Past/present
Science	have made important contributions	1-4-1	Describe what these famous	Scientific innovations
Fusion	to scientific innovations (e.g., Sally	What did these famous	scientists did <mark>.</mark>	Scientist
All Units	Ride [scientist], supports Strand 6;	scientists do?		Engineer
"People in	Neil Armstrong [astronaut, engineer],	1.0.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	Describe how these famous	Astronaut
Science" and	supports Strand 6).	How did these famous	scientists changed the world.	Doctor/nurse etc.
"Careers in		scientists change the		
Science"		world?		
4 th Quarter	Strand 3: Science in Personal and	What is technology?	Define technology.	Science
	<u>Social Perspectives</u>			Technology
Science	<u>Concept 2: Science and Technology in</u>	Where can we find	Identify objects that are	Engineering
Fusion	<u>Society</u>	technology?	technology.	Mathematics

Unit 2: Technology All Around Us -Lessons 3 -S.T.E.M Inquiry Flipcharts	PO 1. Identify various technologies (e.g., automobiles, radios, refrigerators) that people use.	Who uses technology? What are different kinds of technologies people use? Is technology important? Why or why not?	Identify who uses technology. Describe different kinds of technologies people use. Describe the importance of technology.	Technologies Tools Society
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Ganado USD-PA	ACING GUIDE (Science/1 st Grade)			Page 16