

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
CELLS <ul style="list-style-type: none"> • Prokaryote • Eukaryote • Organelles structure and function 	<p>There are no approved state standards for Bio II.</p> <p>B.1.4 (Freshman Biology Standards) Develop and use models to illustrate how specialized structures within cells (i.e. nuclei, ribosomes, Golgi, endoplasmic reticulum) interact to produce, modify, and transport proteins.</p>	<ul style="list-style-type: none"> • Compare and contrast eukaryote vs. prokaryote. • Identify cell organelles on a model. 	<ul style="list-style-type: none"> • Test (Cells, Mitosis, Meiosis) • Hands on activity • Poster Project • Concept Map • Lab 	<ul style="list-style-type: none"> • Eukaryote • Prokaryote • DNA • Cilia • Flagella • Endoplasmic reticulum • Cytoplasm • Golgi Apparatus • Lysosomes • Mitochondria • Nucleus • Ribosome • Vacuole • Cell membrane • Nuclear membrane 	ADDITIONAL
PROTEIN SYNTHESIS <ul style="list-style-type: none"> • Protein Synthesis • Mutations 	<p>There are no approved state standards for Bio II.</p> <p>B.4.3 (Freshman Biology Standard) Construct a model to explain that the unique shape and function of each protein is determined by the sequence of its amino acids, and thus is determined by the sequence of the DNA that codes for this protein.</p>	<ul style="list-style-type: none"> • Summarize the components of protein synthesis (including transcription and translation). • Apply the knowledge of protein synthesis to mutations and the effects they can have on an organism that lead to genetic disorders. 	<ul style="list-style-type: none"> • Test DNA • Pamphlet • Lab 	<ul style="list-style-type: none"> • DNA Translation • DNA Transcription • Polypeptide • Protein folding • Mutation • Genetic Disorder 	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
<p>STEM CELLS AND CLONING</p> <ul style="list-style-type: none"> • Stem cells types • Ethical considerations 	<p>There are no approved state standards for Bio II.</p>	<ul style="list-style-type: none"> • Recognize and define the types of stem cells. • Compare and contrast the positive and negative arguments for use of various stem cells. • Synthesize information in scientific articles. • Define and explain therapeutic cloning. 	<ul style="list-style-type: none"> • Quiz • Persuasive essay • Hands on activity 	<ul style="list-style-type: none"> • Totipotent • Blastocyst • Differentiation • Embryonic stem cells • Adult stem cells • Pluripotent • Reproductive cloning • Therapeutic cloning 	<p>CRITICAL</p>
<p>FETAL DEVELOPMENT</p> <ul style="list-style-type: none"> • In utero development of single pregnancy and multiples • Inborn errors 	<p>There are no approved state standards for Bio II.</p>	<ul style="list-style-type: none"> • Identify the major developments in each trimester of fetal development. • Compare and contrast monozygotic and dizygotic twins. • Identify causes of differences in monozygotic twins. • Synthesize and respond to studies written on and/or documentaries produced about identical twins/epigenetics and the agents that cause them to differ. 	<ul style="list-style-type: none"> • Test • Genetic disorder pamphlet • Amniotic Egg lab • Synthesis questions over film • Online activity 	<ul style="list-style-type: none"> • Morula • Monozygotic twins • Blastocyst • Dizygotic twins • Inner cell mass • Neural Tube • Embryo • Fetus • Critical Period 	<p>ADDITIONAL</p>

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
MENDELIAN GENETICS <ul style="list-style-type: none"> • Mendel's Laws • Monohybrid Cross • Dihybrid Cross 	There are no approved state standards for Bio II.	<ul style="list-style-type: none"> • Execute a monohybrid cross. • Execute a dihybrid cross. • Calculate probability for outcomes in Punnett squares. • Describe how non-Mendelian traits are inherited (Ex. Sex-linked, Co-Dominant and Incomplete Dominant). 	<ul style="list-style-type: none"> • Quiz • Test • Activity (Genotype to Phenotype) • Reading and analyzing 	<ul style="list-style-type: none"> • Recessive • Dominant • Homozygous • Heterozygous • Phenotype • Genotype • Pedigrees • Law of Independent Assortment • Law of Segregation 	CRITICAL
NON-MENDELIAN INHERITANCE <ul style="list-style-type: none"> • Sex-linked • Co-Dominant • Incomplete Dominant • Polygenic/multifactorial • Chromosomal 	There are no approved state standards for Bio II.	<ul style="list-style-type: none"> • Describe how non-Mendelian traits are inherited via sex-linked, Co-Dominant, Incomplete Dominant, polygenic and chromosomal (Ex. Down's syndrome or Trisomy 13). 	<ul style="list-style-type: none"> • Quiz • Test • Lab • Online Activity • Produce a research project on a non-Mendelian genetic related disease 	<ul style="list-style-type: none"> • Sex Chromosomes • Sex linked • Hemizygous • Homogametic • Mitochondrial DNA • Hemophilia • Carrier • Mutations • Mutagen 	CRITICAL
EPIGENETICS <ul style="list-style-type: none"> • Proteomics • Non-coding and coding genes 	There are no approved state standards for Bio II.	<ul style="list-style-type: none"> • Analyze studies/research on epigenetics. 	<ul style="list-style-type: none"> • Web quest • Quiz 	<ul style="list-style-type: none"> • Epigenetic • Proteomics • Gene Expression • Transposon • Bioethics • Cohort study • Somatic Gene Therapy • Germline Gene Therapy 	IMPORTANT

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
GENETICS OF BEHAVIOR <ul style="list-style-type: none"> • Structure of neuron • Structure of human brain • Mood disorders • Drug use and influence on neurons and behavior 	There are no approved state standards for Bio II.	<ul style="list-style-type: none"> • Construct a model of a neuron. • Match sections of the brain with its function. • Recognize how various drugs effect neural activity. • Describe various mood disorders (Ex. Schizophrenia, depression, Bipolar) and what neurological changes occur in the brain to result in these disorders. 	<ul style="list-style-type: none"> • Model • Web quest • Summary • Test 	<ul style="list-style-type: none"> • Neuron • Presynaptic membrane • Post synaptic membrane • Synapse • Myelin Sheath • Axon • Neurotransmitter 	IMPORTANT
POPULATION GENETICS <ul style="list-style-type: none"> • Hardy-Weinberg • DNA Profiling • Macroevolution • Microevolution 	There are no approved state standards for Bio II.	<ul style="list-style-type: none"> • Identify the components of Hardy-Weinberg. • Calculate Hardy-Weinberg for a given population. • Compare and contrast macroevolution and microevolution. 	<ul style="list-style-type: none"> • Lab • Quiz 	<ul style="list-style-type: none"> • DNA Profiling • Gene Pool • Hardy-Weinberg equilibrium • Population Genetics • Macroevolution • Microevolution 	IMPORTANT

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>CELLS</p> <ul style="list-style-type: none"> • Prokaryote • Eukaryote • Organelles structure and function 	<p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.6: Construct explanations and design solutions.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support texts. • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text.
<p>DNA</p> <ul style="list-style-type: none"> • Structure • Replication 	<p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.4: Analyze and interpret data.</p>	<p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support texts. • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.3: Structural Elements and Organization (Reading)</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and other domain-specific words and phrases <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>PROTEIN SYNTHESIS</p> <ul style="list-style-type: none"> • Protein Synthesis • Mutations 	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.4: Analyze and interpret data.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.3: Structural Elements and Organization (Reading)</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and other domain-specific words and phrases <p>LST.5: Writing Genres (Writing)</p> <ul style="list-style-type: none"> • Write informative texts, including scientific procedures/experiments or technical processes. • Draw conclusions from data and research.
<p>MITOSIS</p> <ul style="list-style-type: none"> • Mitosis • Asexual Reproduction 	<p>SEPS.1: Posing questions and defining problems.</p>	
<p>Meiosis</p> <ul style="list-style-type: none"> • Sexual Reproduction • Cancer • Karyotype 	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.4: Analyze and interpret data.</p> <p>SEPS.7: Engaging in argument from evidence.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>Stem Cells and Cloning</p> <ul style="list-style-type: none"> • Stem cells types • Ethical considerations 	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.7: Engaging in argument from evidence.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.3: Structural Elements and Organization (Reading)</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and other domain-specific words and phrases <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text.
<p>FETAL DEVELOPMENT</p> <ul style="list-style-type: none"> • In utero development of single pregnancy and multiples • Inborn errors 	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences.
<p>MENDELIAN GENETICS</p> <ul style="list-style-type: none"> • Mendel's Laws • Monohybrid Cross • Dihybrid Cross 	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>NON-MENDELIAN INHERITANCE</p> <ul style="list-style-type: none"> • Sex-linked • Co-Dominant • Incomplete Dominant • Polygenic/multifactorial • Chromosomal 	<p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.4: Analyze and interpret data.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support texts. • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.3: Structural Elements and Organization (Reading)</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and other domain-specific words and phrases <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text. <p>LST.5: Writing Genres (Writing)</p> <ul style="list-style-type: none"> • Write informative texts, including scientific procedures/experiments or technical processes. • Draw conclusions from data and research.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>EPIGENETICS</p> <ul style="list-style-type: none"> • Proteomics • Non-coding and coding genes 	<p>SEPS.1: Posing questions and defining problems.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support texts. • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.3: Structural Elements and Organization (Reading)</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and other domain-specific words and phrases
<p>GENETICS OF BEHAVIOR</p> <ul style="list-style-type: none"> • Structure of neuron • Structure of human brain • Mood disorders • Drug use and influence on neurons and behavior 	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.4: Analyze and interpret data.</p> <p>SEPS.5 Using mathematics and computational thinking.</p> <p>SEPS.6: Construct explanations and design solutions.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text. <p>LST.5: Writing Genres (Writing)</p> <ul style="list-style-type: none"> • Write informative texts, including scientific procedures/experiments or technical processes. • Draw conclusions from data and research.

GRADE LEVEL: 10-12

SUBJECT: BIOLOGY II (VERTEBRATE ZOOLOGY)

DATE: 2016-2017

MONTH/GRADING PERIOD: SEMESTER 1

MASTER COPY 3-23-17

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
<p>Fishes</p> <ul style="list-style-type: none"> • Class of animals within the phyla • Current ecological issues • Body systems <ul style="list-style-type: none"> – Skeletal – Muscular – Circulatory – Respiratory – Nervous – Reproductive – Excretory 	<p>Compare and contrast the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.</p>	<ul style="list-style-type: none"> • Identify the three major fish orders of fish (Osteichthyes, Chondrichthyes and Myxini) and the identifying characteristics that separate each class. • Explore the relationships of the skeletal and muscular system in references to movement of fish. • Identify the key components of the digestive process in fish. • Describe major structures of the circulatory and respiratory systems and how gas exchange occurs via both systems in fish. • Describe the major sensory organs and their complexity as they relate to homeostasis in fish. • Explain the life cycle of the organism including types of reproduction/fertilization and parental nurturing. • Discuss current ecological issues and events pertaining to this phyla. 	<ul style="list-style-type: none"> • Fish Test • Lab report • Lab practical • Concept Map 	<ul style="list-style-type: none"> • Osteichthyes • Chondrichthyes • Myxini • Gill rakers • Ram ventilation • Gill filaments • Pneumatic sacs • Electroreception • Nephrons • Cloaca • Swim bladder • Operculum • Countercurrent exchange mechanism • Lateral line system 	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
<p>AMPHIBIANS</p> <ul style="list-style-type: none"> • Class of animals within the phyla • Current ecological issues • Body Systems <ul style="list-style-type: none"> – Skeletal – Muscular – Circulatory – Respiratory – Nervous – Reproductive – Excretory 	<p>Compare and contrast the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.</p>	<ul style="list-style-type: none"> • Identify the three major orders of amphibians (Caudata, Anura, and Gymnophiona) and the identifying characteristics that separate each class. • Explore the relationships of the skeletal and muscular system in references to movement of amphibian. • Identify the key components of the digestive process in fish. • Describe major structures of the circulatory and respiratory systems and how gas exchange occurs via both systems in fish. • Describe the major sensory organs and their complexity as they relate to homeostasis in amphibian. • Explain the life cycle of the organism including types of reproduction/fertilization and parental nurturing. • Discuss current ecological issues and events pertaining to this phyla. 	<ul style="list-style-type: none"> • Amphibian Test • Lab report • Lab practical • Online dissection • Movie analysis 	<ul style="list-style-type: none"> • Amniotic Egg • Amplexus • Buccopharyngeal respiration • Cutaneous respiration • Nictitating Membrane • Tetrapods • Metamorphosis • Caudata • Anura • Gymnophiona 	<p>CRITICAL</p>

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
<p>REPTILES</p> <ul style="list-style-type: none"> • Class of animals within the phyla • Current ecological issues • Body Systems <ul style="list-style-type: none"> – Skeletal – Muscular – Circulatory – Respiratory – Nervous – Reproductive – Excretory 	<p>Compare and contrast the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.</p>	<ul style="list-style-type: none"> • Identify the four major orders of reptile (Rynchocephalia, Squamata, Chelonia, and Crocodilia) and the identifying characteristics that separate each class. • Explore the relationships of the skeletal and muscular system in references to movement of reptiles. • Identify the key components of the digestive process in reptiles. • Describe major structures of the circulatory and respiratory systems and how gas exchange occurs via both systems in reptiles. • Describe the major sensory organs and their complexity as they relate to homeostasis in reptiles. • Explain the life cycle of the organism including types of reproduction/fertilization and parental nurturing. • Discuss current ecological issues and events pertaining to this phyla. 	<ul style="list-style-type: none"> • Test • Movie analysis • Concept map • Amniotic Egg lab 	<ul style="list-style-type: none"> • Amniotic Egg • Autotomy • Carapace • Jacobson’s organs • Keratin • Parietal eye • Pit organs • Secondary Palate • Rynchocephalia • Squamata • Chelonia • Crocodilia 	<p>CRITICAL</p>

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
<p>BIRDS</p> <ul style="list-style-type: none"> • Class of animals within the phyla • Current ecological issues • Body Systems <ul style="list-style-type: none"> – Skeletal – Muscular – Circulatory – Respiratory – Nervous – Reproductive – Excretory 	<p>Compare and contrast the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.</p>	<ul style="list-style-type: none"> • Explore the relationships of the skeletal and muscular system in references to movement of aves. • Identify the key components of the digestive process in aves. • Describe major structures of the circulatory and respiratory systems and how gas exchange occurs via both systems in aves. • Describe the major sensory organs and their complexity as they relate to homeostasis in aves. • Explain the life cycle of the organism including types of reproduction/fertilization and parental nurturing. • Discuss current ecological issues and events pertaining to this phyla. 	<ul style="list-style-type: none"> • Bird Test • Lab report • Lab practical -Owl Pellet • Bird Poster • Concept Map • Quiz <ul style="list-style-type: none"> -Components of amniotic egg -15 North American Bird Calls 	<ul style="list-style-type: none"> • Airfoil • Flight feathers • Precocial • Furcula • Pygostyle • Monogamous • Polyandrous • Polygynous • Clutch • Down feathers • Gizzard 	<p>CRITICAL</p>

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCAB	PRIORITY
<p>MAMMALS</p> <ul style="list-style-type: none"> • Class of animals within the phyla • Current ecological issues • Body Systems <ul style="list-style-type: none"> – Skeletal – Muscular – Circulatory – Respiratory – Nervous – Reproductive 	<p>Compare and contrast the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.</p>	<ul style="list-style-type: none"> • Explore the relationships of the skeletal and muscular system in references to movement of mammals. • Identify the key components of the digestive process in mammals. • Describe major structures of the circulatory and respiratory systems and how gas exchange occurs via both systems in mammals. • Describe the major sensory organs and their complexity as they relate to homeostasis in mammals. • Explain the life cycle of the organism including types of reproduction/fertilization and parental nurturing. • Discuss current ecological issues and events pertaining to this phyla. 	<ul style="list-style-type: none"> • Mammal Test • Lab practical • Lab <ul style="list-style-type: none"> -slides -cow heart -fetal pig dissection • Written <ul style="list-style-type: none"> Summary -Research paper 	<ul style="list-style-type: none"> • Cecum • Hibernation • Delayed Fertilization • Placenta • Diaphragm • Scent or Musk Glands • Estrus Cycle • Sebaceous Glands • Gestation Period • Sudoriferous Glands 	<p>CRITICAL</p>

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>Compare and contrast the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.</p>	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.4: Analyze and interpret data.</p> <p>SEPS.6: Construct explanations and design solutions.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support texts. • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text. <p>LST.5: Writing Genres (Writing)</p> <ul style="list-style-type: none"> • Write informative texts, including scientific procedures/experiments or technical processes. • Draw conclusions from data and research. <p>LST.6: The Writing Process (Writing)</p> <ul style="list-style-type: none"> • Use technology to produce, publish, and update individual or shared writing products

