ARC Week at Glance – Jackson (S1, W13)

Topic: Unit 3 – Populations Course: AP Environmental Science Grade: 9 Dates: 10/27 – 10/31

	Learning Target (I am learning…)	Criteria for Success (I can…)	Activation/ Instruction	Collaboration/ Guided Practice	Independent Learning/ Assessment
			*(Include at least one/two formatives*in any part of the lesson as needed)*		
Monday	that populations change over time in reaction to a variety of factors.	explain how resource availability affects population growth. apply appropriate mathematical relationships to solve a problem, with work shown (e.g., dimensional analysis).	Do Now: FRQ for Topic 3.4; Discuss responses as a class.	Slides and notes on Populations (brief overview) Activity: Population Calculations (We/You Do)	Exit Ticket: FRQ for 3.5; place responses in bin prior to exiting class. Submit Populations Calculations worksheet on Canvas for feedback. HW – Video and Notes for Topic 3.6
Tuesday	that populations change over time in reaction to a variety of factors.	explain age structure diagrams.	Do Now: Discuss responses from the previous class day's FRQ. Discuss responses. Pre-Lab Expectations	Age Structure Diagrams (Data Table Calculations)	Completing the data table and begin graphing the data that was collected. HW – Video and Notes for Topic 3.7
Wednesday	that populations change over time in reaction to a variety of factors.	graph age structure diagrams and interpret what they represent.	Complete and review data table calculations. Identify trends in data (discussion).	Age Structure Diagrams (Graphing Data); Discuss the outcomes of the graphs that were made; display graphs	Exit Ticket: FRQ for 3.6; place responses in bin prior to exiting class. HW – Video and Notes for Topic 3.8
Thursday	that populations change over time in reaction to a variety of factors.	calculate birth and death rate using age structure diagrams. determine the demographic transition stage of a population using an age structure diagram.	Do Now: Complete graphs of all 3 age structure diagrams.	I/We/You Do – How to calculate Birth Rate and Death Rate. Discuss Demographic Transition Stages Complete Age Structure Diagrams Packet and submit in Canvas.	Unit 3 Mini-Quiz 2 (AP Classroom) HW – Video and Notes for Topic 3.9

Friday	that populations change over time in reaction to a variety of factors.	explain factors that affect total fertility rate in human populations. explain how human populations experience growth and decline through calculations.	Do Now: Practice Items for Populations Calculations	Activity: How Do We Measure Populations? (Collaborate/groups throughout)	Students will be Cold Called and asked to come to the board to show and explain their calculations. HW – HW – Study for Checkpoint Quiz

Additional Info: **Minor Grade** **Major Grade** **Course materials and resources are available in Canvas.**

ARC Week at Glance – Jackson (S1, W13)

Topic: Unit 2: Properties and Bonding / Unit 3: Chemical Reactions

Course: Chemistry Grade: 11 Dates: 10/27 – 10/31

	Learning Target (I am learning …)	Criteria for Success (I can…)	Activation/ Instruction	Collaboration/ Guided Practice	Independent Learning/ Assessment
			*(Include at least one/two formatives*in any part of the lesson as needed)*		
Monday	how to develop a model to illustrate the release or absorption of energy (endothermic or exothermic) from a chemical reaction system depends upon the changes in total bond energy.	describe how the Law of Conservation of Mass/Matter applies to chemical equations.	Do Now: List 5 activities that you typically every day.	Slides and Notes on Endothermic and Exothermic Reactions	Check for Understanding Quiz on Endothermic and Exothermic Reactions. (Discuss responses as a class) Exit Ticket: Based off your Do Now, write a real-life scenario based off your lifestyle that illustrates an endothermic and/or exothermic reaction.
Tuesday	how to develop a model to illustrate the release or absorption of energy (endothermic or exothermic) from a chemical reaction system depends upon the changes in total bond energy.	conduct a simulation to examine and explain endothermic and exothermic reactions.	Do Now: Determine if the scenarios below represent endothermic or exothermic reactions (based off yesterday's Exit Ticket)	PhET Lab – Endothermic vs. Exothermic (Background and Experiments 1 & 2)	Exit Ticket: Based on your data table, describe a notable difference between the two experiments.
Wednesday	how to develop a model to illustrate the release or absorption of energy (endothermic or exothermic) from a chemical reaction system depends upon the changes in total bond energy.	demonstrate mastery of endothermic and exothermic reactions.	Assessment expectations; technology check.	Student and Teacher Q&A prior to the assessment.	Assessment – Endothermic and Exothermic Reactions (Canvas)
Thursday	obtain, evaluate, and communicate information about how to refine the design of a chemical system by applying engineering principles to manipulate the factors that affect a chemical reaction.	describe the factors affecting the rate of a reaction. explain the concept of reaction rate as it relates to the collision theory construct and label an energy diagram to understand the effect of catalyst and inhibitors in the reaction rate.	Do Now: Intro to Reaction Rates Bellringer (3 items, timer, class discussion to follow)	Slides and Notes (10 minutes for students to record the notes in Canvas; followed by the teacher discussing the slideshow; throughout students will have a designated amount of time to work through and discuss sections of WS1)	Exit Ticket: Mini-Quiz on Reaction Rates (place responses in bin prior to exiting class)

Friday	obtain, evaluate, and communicate information about how to refine the design of a chemical system by applying engineering principles to manipulate the factors that affect a chemical reaction.	use Le Châtelier's principle to predict the shift in equilibrium for changes in pressure, temperature, concentration, and addition of a catalyst	Do Now: Review of Energy Diagrams (label the various parts of the diagram; scenario questions)	Slides and Notes (10 minutes for students to record the notes in Canvas; followed by the teacher discussing the slideshow; throughout students will have a designated amount of time to work through and discuss sections of WS2)	Exit Ticket: Mini-Quiz on Le Châtelier's principle (place responses in bin prior to exiting class)

Additional Info: **Minor Grade** **Major Grade** **Course materials and resources are available in Canvas.**

ARC Week at Glance – Jackson (S1, W13)

Topic: Unit 2: Rhythms of Planet Earth / Unit 3A: Humans on Earth

Course: Environmental Science Grade: 9 Dates: 10/27 – 10/31

	Learning Target (I am learning…)	Criteria for Success (I can…)	Activation/ Instruction	Collaboration/ Guided Practice	Independent Learning/ Assessment
			*(Include at least one/two formatives*in any part of the lesson as needed)*		
Monday	how to obtain, evaluate, and communicate information to analyze human impact on natural resources.	explain the difference between weather and climate.	Do Now: In your opinion, is Climate Change real? Provide evidence for why or why not. (1-paragraph, cold call)	Fillable notes on Climate Change w/ questions throughout (Weather and Climate).	Exit Ticket: Mini-Quiz on weather vs. climate
Tuesday	how to obtain, evaluate, and communicate information to analyze human impact on natural resources.	describe the greenhouse effect.	Do Now: Weather vs Climate (Kahoot!)	Slides on Greenhouse Gases and the Greenhouse Effect Lab – The Greenhouse Effect (PhET simulation) • 10 minutes to complete Parts 1 & 2 • Part 3 Together as a class • Part 4 independently or in lab group.	Exit Ticket: Are greenhouse gases good or bad? Explain using 3-5 sentences.
Wednesday	how to obtain, evaluate, and communicate information to analyze human impact on natural resources.	describe the greenhouse effect, global warming, and the causes and effects of climate change.	Do Now: Kahoot! On Greenhouse Gases	Students to complete Part B & C of Climate Change notes packet (timed; teacher to highlight key info from slides, videos for TPS). The Climate Time Machine	Exit Ticket: Identify one cause of climate change and explain how it is impacting earth?

Thursday	how to obtain, evaluate, and communicate information to analyze human impact on natural resources.	conduct an experiment to examine how excess carbon effects pH levels of water.	Do Now: Climate Time Machine – Ocean Warming Using the Climate Time Machine website, click on Ocean Warming and respond to the following items: • How many years of data are collected in this simulation? • What are some of the effects of the ocean's rising internal water temperature? • In your opinion, is this an issue people should be concerned about? Explain why or why not?	Lab – Are Our Oceans Becoming Acidic? (Ocean Acidification): Parts 1 & 2	Clean lab area. Respond to analysis questions in the lab packet. What are 2 takeaways that you learned regarding climate change and ocean acidification?
Friday	how to obtain, evaluate, and communicate information to analyze human impact on natural resources.	design an experiment to assess the effect of ocean pH on shell producing animals.	Do Now: Determine if the substances below are acidic, neutral, or basic.	Ocean Acidification Lab – Part 3	Clean lab area. Secure lab samples. Exit Ticket: Lab Reflection (Canvas)

Additional Info: **Minor Grade** **Major Grade** **Course materials and resources are available in Canvas.**