Ganado Unified School District #20
(Science/4th grade)

PACING Guide SY 2017-2018

Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
Third Quarter January 2018 to March 2018 Chapter 11 & 12				
A Closer Look Teacher's Edition **Reading and Writing workbook** **Visual Literacy workbook** **Activity Lab book** **Assessment Workbook** **Activity Flipchart** **School to Home Activities workbook** **Key Concept Cards**	**Stand 5: Physical Science Concept 3: Energy and Magnetism** PO 1. Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects. PO 2. Construct series and parallel electric circuits. PO 3. Explain the purpose of conductors and insulators in various practical applications. PO 4. Investigate the characteristics of magnets (e.g., opposite poles attract, like poles repel, the force between two magnets poles depends on the distance between them).	Chapter 11 Big Idea: Why do things move? Lesson 1 Essential Question: How do objects move?	Chapter 11 Literature KFO: (Magnetic Migration) • I can explain that during migration some birds navigate using a magnetic mineral in their bodies. Lesson 1 KFO: • I can explain how motion, speed, velocity, and acceleration are related. • I can summarize the forces that act on a moving object, including friction and gravity.	▪ Speed ▪ Velocity ▪ Force ▪ Acceleration ▪ Inertia ▪ Friction ▪ Gravity

Vocabulary Cards English Language Learner Teacher's Guide **Online tools at: https://connected.mcgraw-hill.com**	PO 5. State cause and effect relationships between magnets and circuitry. **Strand 1: Inquiry Process** **Concept 1: Observations, Questions, and Hypotheses** PO 1. Differentiate inferences from observations. PO 2. Formulate a relevant question through observations that can be tested by an investigation. PO 3. Formulate a predictions in the realm of science based on observed cause and effect relationships. **Concept 2: Scientific Testing (Investigating and Modeling)** PO 5. Record data in an organized and appropriate format (e.g., t-chart, table, list, written log). **Concept 3: Analysis and Conclusions** PO 1. Analyze data obtained in a scientific investigation to identify trends. **Concept 4: Communication** PO 3. Communicate with other groups or individuals to compare the results of a common investigation.	Lesson 2 Essential Question: How can pushes and pulls affect the way objects move? Lesson 3 Essential Question How are energy and work related? Lesson 4 Essential Question: How do simple machines make work easier? Chapter 12 Big Idea How do we use energy? Lesson 4 Essential Question: How does electricity affect your bill?	Lesson 2 KFO: • I can demonstrate a basic understanding of how forces affect motion. • I can explain how friction affects motion. Lesson 3 KFO: • I can define work and energy. • I can compare and contrast potential and kinetic energy Lesson 4 KFO: • I can identify the different kinds of simple machines. • I can explain how simple machines work together to make compound machine. Lesson 4 KFO: • I can describe the characteristics of	▪ Balanced forces ▪ Unbalanced forces ▪ Newton ▪ Work ▪ Energy ▪ Potential energy ▪ Kinetic energy ▪ Simple machine ▪ Lever ▪ Load ▪ Effort force ▪ Inclined plane ▪ Compound machine ▪ Static electricity ▪ Discharge ▪ Circuit

		electrically charged objects. • I can explain the difference between static and current electricity.	▪ Current electricity ▪ Series circuit ▪ Parallel circuit
	Lesson 5 Essential Question: How are electricity and magnetism related?	Lesson 5 KFO: • I can describe a magnetic field and the effect of distance on magnetic force. • I can understand how an electromagnet, an electric motor, and a generator work.	▪ Attract ▪ Repel ▪ Pole ▪ Magnetic field ▪ Electromagnet ▪ Motor ▪ generator