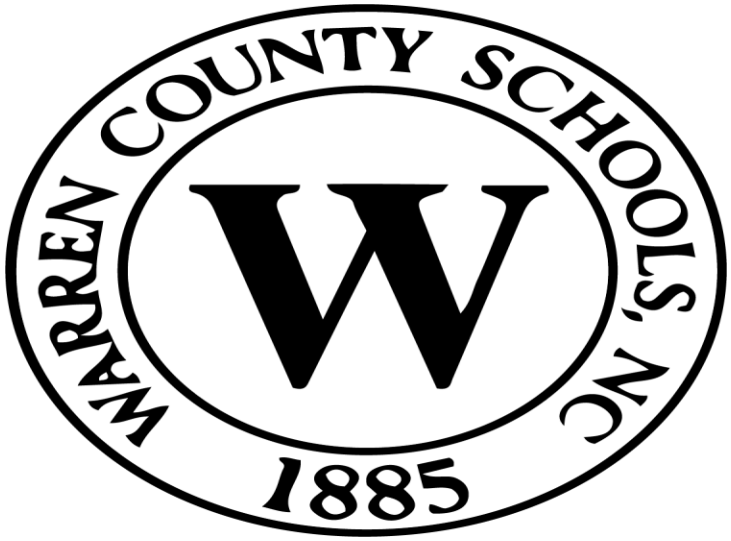
Warren County Pacing Guide



Kindergarten Science

NC Standards	Vocabulary	Timeframe
Topic: Forces and Motion **K.P.I. Understand the positions and motions of objects and organisms observed in the environment.** • K.P.1.1 Compare the relative position of various objects observed in the classroom and outside using position words such as: in front of, behind, between, on top of, under, above, below, and beside. • K.P.1.2 Give examples of different ways objects and organisms move (to include falling to the ground when dropped): straight, zigzag, round and round, back and forth, fast and slow **Essential Questions:** How can you describe the location of an object? How do objects move? How can you make an object move? How can you change an object's direction? What causes moving objects to stop? How do objects move? How can you make an object move? What kinds of objects roll? Why do some objects move slowly and some move quickly? How can you stop an object from moving? What happens when you drop an object? Why do some objects fall to the ground? **Position Words Posters** https://k-3teacherresources.com/resource/maths/position-vocabulary-words/ **CScope Kindergarten Unit- Kindergarten force and motion unit.** http://www.bigspringisd.net/Uploads/177/misc/f266695.pdf **NC Kindergarten Science Livebinder- Kindergarten force and motion unit.** http://www.livebinders.com/play/play?id=444625 **Interactive Sites for Education: Force and Motion** http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml **Tacoma Kindergarten Unit- force and motion unit.** https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0ahUKEwiq4MqD6pPOAhUIPj4KHbBADDYQFggnMAI&url=http%3A%2F%2Fclassrooms.tacoma.k12.wa.us%2Ftps%2Fkscience%2Fdocuments%2Fdownload%2Fkindergarten_science_unit_on_motion.doc%3Fid%3D102120&usg=AFQjCNGH6TktNUkcf32KqhcFYZ4m8EPtRQ&bvm=bv.128153897,d.cWw&cad=rja Force and Motion Lessons **https://s3.wp.wsu.edu/uploads/sites/731/2015/04/Kindergarten-Force-Motion-Lessons.pdf**	push pull force straight zigzag round and round fast slow spin slide roll back and forth stretch sink float gravity spring rub	45 days 8/17-10/21

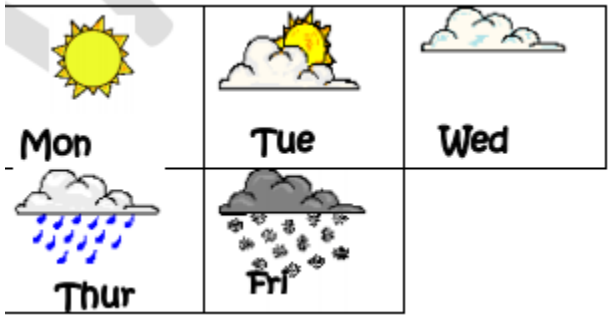
Force and Motion Experiments/Activities **https://www.teachjunkie.com/sciences/force-and-motion-experiments/** **Video** How Things Move https://www.youtube.com/watch?v=R69vwApuj6c Literature Connection Motion, by Darlene R. Stille How Things Move, by Don L. Curry Give it a Push! Give it a Pull!, byJennifer Boothroyd And Everyone Shouted, “PULL!”,by Claire Llewellyn Push and Pull, by Lola M. Schaefer Push and Pull, by Patricia Murphy Push and Pull, by Charlotte Guillain Move it!: Motion, Forces and You, by Adrienne Mason Where is it? Is it Moving? by Delta Education Assessment Prototypes K.P.1.1 Students use their senses to observe and learn about their environment (e.g. familiarizing themselves with their classroom environment, watching the movement of ants and other organisms outside). Teacher Observation K.P.1.1 Ask students to use their senses to observe and learn about their environment (e.g., familiarizing themselves with their classroom environment and outside). Describe whether a desk is in front of, at the side, or in the back of another students desk or some other reference point; or, whether the top of the school’s flagpole is higher or lower than the roof of the school. Continue the assessment to ensure that students use oral language to describe the relative location of various objects in the classroom and outside using position words such as: (in front of, behind, between, on top of, under, above, below, beside). K.P.1.2 Students will draw, write, communicate, and dramatize, etc. the observed movement of various organisms and describe the movement as: □ Straight □ Zigzag □ Round and round □ Back and forth □ Fast and slow		
Topic: Matter: Properties and Change **K.P.2 Understand how objects are described based on their physical properties and how they are used.** • K.P.2.1 Classify objects by observable physical properties (including size, color, shape, texture, weight, and flexibility).	size shape texture weight flexibility clay	45 day 10/22/2020- 1/13/2021

• K.P.2.2 Compare the observable physical properties of different kinds of materials **Essential Questions:** How can objects (matter) be described? What gives matter its unique qualities? What can be observed about objects? How can we use our senses to observe? How can objects be described by size, color, shape, weight, or other physical properties? **Kindergarten Matter** http://www.wheretomorrowbegins.org/climb/wp-content/uploads/2013/02/KP2-Science-Unit.pdf **Teaching Properties of Matter Guide** https://www.lernerbooks.com/SiteCollectionDocuments/TeachingGuides/9780822553489.pdf **NCES Kinder Science Livebinder** http://www.livebinders.com/play/play?id=446201 **Rader's Chem4Kids** http://www.chem4kids.com/files/matter_states.html Explains basic states and properties. This site goes well beyond what elementary students need to know, but it written in an accessible way and may be helpful in guiding students who are prepared for more advanced study. **SuperSTAAR Teaching Resources** http://superstaar.org/kinder/physical-science/k5-properties-of-matter/ Students classify matter based on physical properties. These lessons can be adapted to address the clarifying objectives. **Sesame Street Properties of Matter** http://www.sesamestreet.org/sites/default/files/media_folders/Images/STEM_Properties_EdGuide.pdf **The World of Matter** http://www.sde.ct.gov/sde/lib/sde/pdf/curriculum/gifted_and_talented/theworldofmatter.pdf Modules 4 and 5 of this first grade unit can be adapted for use with NCSCOS Kindergarten. **Science Interactives for Matter in K** http://www.gamequarium.org/dir/Science_Interactives_for_MO_GLEs/Kindergarten/Properties_of_Matter/wood Video Resources: http://www.sesamestreet.org/toolkits/stem/properties https://www.youtube.com/watch?v=fpIWhwQUhkQ&feature=youtu.be https://www.youtube.com/watch?v=JZF5wRXb3zg&feature=youtu.be https://www.youtube.com/watch?v=kNoMFZjT0sU Assessment Prototypes K.P.2.1 Sort a collection of items from nature by one attribute (big and little pinecones, rough or smooth shells, green or yellow leaves). Classify organisms or objects by one and two observable properties	wood cloth paper cloth	

and explain the rule used for sorting (e.g., size, color, shape, texture or flexibility). K.P.2.2 Compare (detect correspondences between) objects based on what they are made of and tell how the properties make them suitable for how they are used Literature Connection https://www.getepic.com/collection/96400/matter		
Topic: Earth Systems, Structures and Processes **K.E.1 Understand change and observable patterns of weather that occur from day to day and throughout the year.** • K.E.1.1 Infer that change is something that happens to many things in the environment based on observations made using one or more of their senses. • K.E.1.2 Summarize daily weather conditions noting changes that occur from day to day and throughout the year. • K.E.1.3 Compare weather patterns that occur from season to season. Essential Questions: What is the weather today? How do daily weather conditions change? What are some different types of weather? How can we describe weather? How can our senses help us describe weather? How do we prepare for weather? What kind of patterns can we see/observe in weather? What are some examples of seasonal changes? Elementary Globe K-4 Resources https://www.globe.gov/web/elementary-globe/overview/clouds/story-book Download the Cloud Module storybook and learning activities. PBS Early Childhood Themes http://www.pbs.org/teachers/earlychildhood/theme/weather.html Rain activities, books and programs from PBS for early childhood. Weather Watchers https://www.coreknowledge.org/our-schools/teacher-created-lesson-plans/kindergarten-lesson-plans/#science Weather Watchers is a science unit that will help students learn about the four seasons and daily weather changes. Through daily observations of the weather, projects, literature and art activities, students will be able to name characteristics of several elements of weather. Weather Stories http://beyondweather.ehe.osu.edu/stories-for-students Weather stories grouped K-2. Clouds http://www.ket.org/education/video/kevsc/kevsc_000014.htm Learn about different types of clouds and their relationship to weather.	weather change pattern sunny rainy windy cloudy snowy stormy winter spring summer fall (autumn) precipitation temperature thermometer wind vane rain gauge	45 days 1/14/2021- 3/25/2021

Weather Patterns
http://www.teachersdomain.org/resource/ess05.sci.ess.watcyc.lp_whatweather/
Weather can change and has patterns over seasons.
Dressing for the Weather
http://www.teachersdomain.org/resource/evscps.sci.ess.watcyc.dress/
Students dress for the weather. Students drag clothes over for the appropriate season.
Exploring Weather
http://www.exploringweather.com/
Exploring Weather is a comprehensive website that explores all of the different types of weather from hurricanes to winter storms.
Weather Wiz Kids
http://www.weatherwizkids.com/
A website especially for kids to allow them to learn more about the fascinating world of weather.
Video Resources:
PBS learning Systems
Weather http://unctv.pbslearningmedia.org/search/?q=Weather+videos&selected_facets=
Assessment Prototypes:

K.E.1.1 During a field study, students are observed using their senses (e.g. feeling the texture of bark, watching ants and other organisms in their area, etc.). On a follow-up study of the same area, students use their senses to observe the same features of the area and note how they have or have not changed. Have students observe sample plots periodically, comparing the old observations to their new observations until they conclude that change occurs to many things in the environment. Students should draw a logical conclusion using these observations.
K.E.1.2 Provide students with copies of daily weather symbols. Have students paste the picture that best represents the daily weather into a weather chart. Have students describe the weather for the day. Collect pictures throughout the course of the year and ask students to summarize how the weather has changed throughout the month and year.



K.E.1.3 At the end of each season, have students summarize (outline a general theme or major points) the weather patterns that have occurred. At the end of the year, have students compare (detect correspondences among) the

weather patterns that they have noted throughout the year. Literature Connection https://www.weareteachers.com/best-weather-books-for-kids/ Writing Prompts: 1) Using words and pictures create an opinion piece telling about your favorite season and why. 2) With guidance and support from adults create a graphic organizer for different kinds of weather. 3) Use digital tools to create a class book showing things to do on a sunny (any type of weather) day. 4) Choose a schoolyard tree or outdoor setting to focus on as you create an observation logbook to note seasonal changes. Add digital pictures of the tree. 5) Write about seasonal changes in some animal's appearance. Weather Experiments https://www.steamsational.com/weather-science-for-kids/ Weather Posters https://www.flashcardsforkindergarten.com/wp-content/uploads/2016/07/PACK-1-weather-flashcards.pdf https://www.flashcardsforkindergarten.com/wp-content/uploads/2016/07/POSTER-weather.pdf		
Topic: Structures and Functions of Living Organisms **K.L.1 Compare characteristics of animals that make them alike and different from other animals and nonliving things.** • K.L.1.1 Compare different types of the same animal (i.e. different types of dogs, different types of cats, etc.) to determine individual differences within a particular type of animal. • K.L.1.2 Compare characteristics of living and nonliving things in terms of their: Structure, Growth **Essential and Guiding Questions:** **How can we group animals?** **How can we group different kinds of the same animal? (dog, puppy/cat,kitten)** **How can we use properties of materials to determine whether it is living or non-living?** **NCES KL1 Livebinder** **A livebinder dedicated to sharing resources used to teach NCES KL1** **http://www.livebinders.com/play/play?id=446962** **Animal Unit** **In this unit students will recognize, classify, and identify the similarities and differences in various animals according to their attributes (color, size, appearance, parent-offspring connection.** **https://www.georgiastandards.org/Frameworks/GSO%20Frameworks/KK%20Science%20Framework%20Animals%20rev03-09.pdf**	Adapt Cells Change Structure Characteristics Develop Living Non-living Growth Different Movement. Basic needs	45 Days 3/26-6/4/2021

Living and Nonliving Things In this unit, students will observe, classify and arrange objects/organisms into groups of living and non-living things. Students should be allowed to handle and physically sort objects. https://www.georgiastandards.org/Frameworks/GSO%20Frameworks/KK%20Science%20Framework%20Living%20and%20Non-Living.pdf PBS Learning media Living vs Non-living things In this lesson, students learn about the characteristics that distinguish living things from nonliving things. By examining video clips and still photographs of a variety of objects and organisms, students gather evidence and develop criteria to decide if something is living or nonliving. http://www.pbslearningmedia.org/resource/tdc02.sci.life.colt.lp_living/living-vs-nonliving/ Identifying Living and Non-living Things Teach your students about living and nonliving things with this interactive lesson that keeps your class engaged as they learn! http://www.education.com/lesson-plan/living-and-nonliving-things/ Bright Hub Living and Non-Living Things Teaching about living and nonliving things in Kindergarten lends itself to many kinds of lesson plans and activities. It's fun to see the light in a student's eyes as he or she understands that living things move, breathe, have the capacity to grow, and eat and drink and that nonliving things do not. http://www.brighthubeducation.com/pre-k-and-k-lesson-plans/56967-living-and-nonliving-things-lesson-plan-for-kindergarten/ Living or Non-living web activity In this activity, students use an interactive or paper-based graphic organizer to explore their ideas about the characteristics of living things and the characteristics of animals. This activity can be done individually, in pairs or as a whole class. http://sciencelearn.org.nz/Science-Stories/Earthworms/Living-or-non-living VIDEO RESOURCES: Cookie Monster on Living and nonliving things https://www.youtube.com/watch?v=giWqEPNLtBo https://www.youtube.com/watch?v=bWBrusrCmX4 https://www.google.com/search?q=animal+word+wall+kindergarten&biw=1369&bih=1157&source=lnms&tbm=isch&sa=X&ved=0ahUKEwj0zp73vrfOAhWkHsAKHdHrAlwQ_AUIBigB&dpr=0.75 https://www.google.com/search?q=animal+word+wall+kindergarten&biw=1369&bih=1157&source=lnms&tbm=isch&sa=X&ved=0ahUKEwj0zp73vrfOAhWkHsAKHdHrAlwQ_AUIBigB&dpr=0.75#tbm=isch&q=living+and+non+living+word+wall+kindergarten		

Assessment Prototypes K.L.1.1 Compare (detect correspondences among) animals of the same type (birds, dogs, cats, etc.) indicating how animals of the same type exhibit individual differences. K.L.1.2    Compare (detect correspondences among) the basic structure ,growth, changes, movement and basic needs of humans and other animals. Compare (detect correspondences among) the characteristics and needs of living to those of nonliving things. Literature Connection https://www.getepic.com/collection/954708/living-and-nonliving Experiments/Activities http://www.monstersciences.com/living-things/living-things-science-experiment-how-do-living-and-non-living-things-interact/ Living or Non-living Living or Non-Living Project Classifying Living and Non-Living		