Instructional Unit Title: Solar System The teacher may use The teacher may bring The teacher may storytelling (e.g., Horton Hears The teacher may physically in artifacts and images provide simulations a Who) and/or artifacts (e.g., model orbiting/revolving of space exploration (video, internet globe, Google maps) to around a center so that tools so that students resources, etc.) of the introduce the concept of scale students can experience solar system so that can gather initial so that students can begin to the movement of the information on how students can begin to understand the size of the solar components of the solar identify its scientists study our system and their location within system around the sun. solar system. components. the solar system.

The teacher m globe of the e identify po hemispheres, equator so the can begin to un the tilt and pos earth.

The teacher may use a globe of the earth to identify poles, hemispheres, and the equator so the student can begin to understand the tilt and position of Science

4th Grade

The teacher may use texts (informational and fictional) and images related to the moon and oceans so that students can begin to comprehend the relationship between tides and gravitational pull. The teacher may engage students in an interactive experiment on the basic laws of gravity so that students can comprehend how gravity impacts objects in space.

The teacher may use simulations (videos and internet resources) of the moon revolving around the earth, and the earth and moon revolving around the sun, so that students can begin to examine the phases of the moon and its predictable pattern of movement.

The teacher may provide interactive experiences so the student can connect the position of the Earth (tilt/angle) with seasons and seasonal change.

The teacher may engage students in various handson activities that the student can begin to understand how the rotation of earth relates to night and day.

The teacher may provide data or charts (such as moon phases, sunrise/sunset, earth's season chart and a calendar) so that students can recognize predictable patterns (including: day, night, year, moon phases, seasons).

The teacher may use experiments on the effects of disrupted patterns within our solar system (e.g., removing the sun from the center, changing the earth's position within our solar system, eliminating the earth's rotation) so that students can predict changes that might occur in an altered/alternate system. **PERFORMANCE ASSESSMENT:** A meteor is on track to hit the earth which will eliminate the tilt of the earth. You are a news reporter asked to report to your local community on potential changes that could be observed in Colorado. Your report needs to include changes that would occur across a calendar year in relation to predictable patterns of the seasons, sunrise and sunset, and human behaviors as a result of the impact from the meteor.

This unit was authored by a team of Colorado educators. The unit is intended to support teachers, schools, and districts as they make their own local decisions around the best instructional plans and practices for all students. To see the entire instructional unit sample with possible learning experiences, resources, differentiation, and assessments visit <u>http://www.cde.state.co.us/standardsandinstruction/instructionalunitsamples</u>.