

Live from McDonald Observatory
Science TEKS Grades 3 - 5

Grade 3

Scientific Inquiry

2. The student uses scientific inquiry methods during field and laboratory investigations.

*B. collect information by observing and measuring.

*C. analyze and interpret information to construct reasonable explanations.

*D. communicate valid conclusions.

Students participate in a guided inquiry videoconferencing session about telescopes at McDonald Observatory and characteristics of the Sun. They may communicate their results in reports following the videoconference.

Tools and Technology

4. The student knows how to use a variety of tools and methods to conduct science inquiry.

A. collect and analyze information using tools: cameras and computers.

Students are collecting and analyzing data (digital images) from McDonald Observatory solar telescopes via videoconference. In a sense, this is remote observing.

Properties of Matter

7. The student knows that matter has physical properties.

A. gather information **including** temperature, magnetism, hardness, and mass using appropriate tools to identify the physical properties of matter.

B. identify matter as solid, liquid, or gas.

The Natural World

11. The student knows that the natural world includes Earth materials and objects in the sky.

*D. describe the characteristics of the Sun.

Grade 4

Scientific Inquiry

2. The student uses scientific inquiry methods during field and laboratory investigations.

*B. collect information by observing and measuring.

*C. analyze and interpret information to construct reasonable explanations.

*D. communicate valid conclusions.

Students participate in a guided inquiry videoconferencing session about telescopes at McDonald Observatory and characteristics of the Sun. They may communicate their results in reports following the videoconference.

Tools and Technology

4. The student knows how to use a variety of tools and methods to conduct science inquiry.

A. collect and analyze information using tools: cameras and computers.

Students are collecting and analyzing data (digital images) from McDonald Observatory solar telescopes via videoconference. In a sense, this is remote observing.

Change and Patterns

6. The student knows that change can create recognizable patterns.

*A. identify patterns of change **such as** weather, metamorphosis, and objects in the sky.

Students may identify changes in the appearance of the Sun over several days.

Past Events

10. The student knows that certain past events affect present and future events.

B. draw conclusions about “what happened before” using fossils or charts and tables.

The Natural World

11. The student knows that the natural world includes Earth materials and objects in the sky.

*C. identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle.

Grade 5

Scientific Inquiry

2. The student uses scientific inquiry methods during field and laboratory investigations.

*B. collect information by observing and measuring.

*C. analyze and interpret information to construct reasonable explanations.

*D. communicate valid conclusions.

Students participate in a guided inquiry videoconferencing session about telescopes at McDonald Observatory and characteristics of the Sun. They may communicate their results in reports following the videoconference.

Tools and Technology

4. The student knows how to use a variety of tools and methods to conduct science inquiry.

A. collect and analyze information using tools: cameras and computers.

Students are collecting and analyzing data (digital images) from McDonald Observatory solar telescopes via videoconference. In a sense, this is remote observing.

Change and Cycles

6. The student knows that some change occurs in cycles.

*A. identify events and describe changes that occur on a regular bases **such as** in daily, weekly, lunar, and seasonal cycles.

Solar magnetic cycle and sunspots may be studied in post-conference activity. Sun's rotation.

Properties of Matter

7. The student knows that matter has physical properties

*A. classify matter based on its physical properties **including** magnetism, physical state, thermal conductivity, electrical conductivity, and sound.

Plasma in the Sun's photosphere, chromosphere, and in prominences.

Energy

8. The student knows that energy occurs in many forms.

*A. differentiate among forms of energy **including** light and thermal energy.

*B. identify and demonstrate everyday examples of how light is reflected, **such as** from tinted windows, and refracted **such as** in cameras, telescopes, and eyeglasses.

Segment A: Visiting a telescope

Past Events

11. The student knows that certain past events affect present and future events.

*B. draw conclusions about "what happened before" using data **such as** from tree-growth rings and sedimentary rock sequences.

The Natural World

12. The student knows that the natural world includes Earth materials and objects in the sky.

D. identify gravity as the force that keeps planets in orbit around the Sun and the Moon in orbit around the Earth.