

Astronomy Day from McDonald Observatory
Science TEKS Grades 3 - 5

Grade 3

3.2: 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 characteristics of the Sun and planets. They may communicate their results in reports following the videoconference.

3.3: The student knows that information, critical thinking, and scientific problem solving are used in making decisions.

C. represent the natural world using models and identify their limitations.

D. evaluate the impact of research on scientific thought, society, and the environment.

Students make their own scale model of our solar system and identify size limitations, and consider the scientific process in the recent decision to re-classify Pluto.

3.4: 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.

3.7: The student knows that matter has physical properties.

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

Students identify characteristics of the sun.

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

C. identify the planets in our solar system and their position in relation to the Sun.

*D. describe the characteristics of the Sun.

Grade 4

4.2: 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 characteristics of the Sun and planets. They may communicate their results in reports following the videoconference.

4.3: The student knows that information, critical thinking, and scientific problem solving are used in making decisions.

C. represent the natural world using models and identify their limitations.

D. evaluate the impact of research on scientific thought, society, and the environment.

Students make their own scale model of our solar system and identify size limitations, and consider the scientific process in the recent decision to re-classify Pluto.

4.4: 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.

4.6: 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 and location of the Sun over several days/weeks.

Grade 5

5.2: 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 characteristics of the Sun and planets. They may communicate their results in reports following the videoconference.

5.3: The student knows that information, critical thinking, and scientific problem solving are used in making decisions.

C. represent the natural world using models and identify their limitations.

D. evaluate the impact of research on scientific thought, society, and the environment.

Students make their own scale model of our solar system and identify size limitations, and consider the scientific process in the recent decision to re-classify Pluto.

5.4: 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.

5.6: 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.

5.12: The student knows the natural world includes Earth materials and objects in the sky.

C. identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon.

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

Students make their own scale model of our solar system and identify characteristics of the objects in our planetary system.