HBCSD TECHNOLOGY LESSON PLAN
5th GRADE (Lesson 1)

Grade Level - 5

Lesson Title - Email a Scientist

Standards

NGSS 5-ESS1-1. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth.
NGSS 5-ESS1.A: The Universe and its Stars - The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth.
NGSS 5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.
NGSS 5-ESS1.B: Earth and the Solar System - The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year.
NGSS 5-PS2-1.Support an argument that the gravitational force exerted by Earth on objects is directed down.
NGSS 5-PS2.B: Types of Interactions - The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center.
CCSS.ELA-Literacy.W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
CCSS.ELA-Literacy.W.5.2a Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
CCSS.ELA-Literacy.W.5.2b Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
CCSS.ELA-Literacy.W.5.2c Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast*, *especially*).
CCSS.ELA-Literacy.W.5.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
CCSS.ELA-Literacy.W.5.2e Provide a concluding statement or section related to the information or explanation presented.
CCSS.ELA-Literacy.W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
CCSS.ELA-Literacy.W.5.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 5 here.)
CCSS.ELA-Literacy.W.5.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.
CCSS.ELA-Literacy.W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
CCSS.ELA-Literacy.W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
CCSS.ELA-Literacy.W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

Technology Competencies

- Use electronics to communicate and collaborate with others (e.g. email, video conferencing, instant messaging, etc.)
- Use proper keyboarding skills
- Create and revise original text at computer

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- Use proofreading tools (e.g. spell check, grammar check, word count)
- Develop effective search strategies
- Assess reliability and validity of electronic information
- Understand and abide by District Acceptable Use Policy
- Respect ideas and material as property (e.g. plagiarism, intellectual property)
- Be aware of issues regarding Internet Safety and how they can impact students of all ages
- Understand the CIPA (Children's Internet Protection Act) and know what to do if they encounter Internet Predators or Cyber Bullies.

Purpose

Email a scientist about unanswered questions regarding space.

Resources

http://www.madsci.org/submit.html
http://www.newton.dep.anl.gov/aasinfo.htm
http://www.scientificamerican.com/section.cfm?id=ask-the-experts
www.huntington-ca.schoolloop.com/sw

Science TE and textbooks

Supplies

- Chart Paper/Markers
- Computers with Internet access

Direct Instruction

1. Do K-W-L chart on Solar System before teaching unit.
2. Teach unit.
3. Have students email a scientist for any unanswered questions that weren't directly taught in the unit.

Guided Practice

1. When students compose email messages, use the following guidelines:
    a. Do basic research in the classroom and library about your topic.
    b. Tell the scientist what you have learned in your basic research.
    c. Be sure to include your grade level in your e-mail.
    d. Remember, scientists often give suggestions about how to discover an answer to your question rather than giving "the answer".
    e. Send an e-mail reply back to the scientist who responds to your question telling them that you got their message and thanking them for their time.
2. Students will post their answers on the class wiki for everyone to see.

Differentiated Instruction

ELL - Have students work with a peer buddy to compose email message.
GATE - Have students diagram their answers on their wiki pages.

Assessment

Check wiki pages for responses to questions. Have students share out what they've learned. Add information to K-W-L chart.