Technology Competencies 2008-2009

Grade 5/Science

ISTE Standards

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts

AKS	*ISTE Standards*	*Suggested Activity*
analyze how surface features of the earth are caused by constructive and destructive processes (GPS, ITBS) (5SC_B2006-8)	1. Creativity and Innovation 3. Research and Information Fluency 4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Work with your LSTC to make the sites and the PowerPoint template available to students. Use the following sites to gather information to complete the template. http://www.promotega.org/AAU06007/Forces.htm http://www.pickens.k12.sc.us/cweteachers/browns/Layers%20of%20the% 20Earth%20and%20 Constructive_files/frame.htm#slide0016.htm Guiding questions: 1. What is a constructive and destructive force? 2. How do mountains and valleys form? 3. How do volcanoes form? 4. What causes earthquakes? 5. What are the causes and effects of water, wind and ice on coastal erosion? Complete the PowerPoint slides, defining constructive and destructive forces, and giving examples of forces that shape the surface. As time permits, have students add backgrounds, slide transitions and custom animations and share their PowerPoint with the class. *(Powerpoint Template: 5SC_Constructive_Destructive_Forces.pub)*
verify that an object is the sum of its parts (GPS) (5SC_C2006-9)	1. Creativity and Innovation 4. Critical Thinking, Problem Solving and Decision Making 6. Technology Operations and Concepts	Banana Peel Lesson Objectives: Students will determine that the mass of a banana is equal to the sum of the peel plus the sum of the edible part. Students will determine what percentage of a banana is edible. Students will develop a formula relating the edible part to the total mass of the banana. *(Microsoft Word Document: 5SC_Sum_Parts_Banana_Peel)*
distinguish between physical changes and chemical changes (GPS, ITBS) (5SC_C2006-10)	2. Communication and Collaboration 3. Research and Information Fluency 4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Use an overhead projector or class lab time to access the following website(s) to help students distinguish between physical and chemical changes. http://www.quia.com/quiz/303980.html (Quia quiz) http://www.mcwdn.org/chemist/pcchange.html (Students read for information and then take an online quiz). http://www.fordhamprep.org/gcurran/sho/sho/review/rev15b.htm (Online quiz)

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investigate electricity and magnetism and their relationship to one another (GPS, ITBS) (5SC_C2006-11)	1. Creativity and Innovation 4. Critical Thinking, Problem Solving and Decision Making 6. Technology Operations and Concepts	Work with the LSTC to make the templates available to students. Use the MSWord Information sheet to allow students to collect information on the characteristics of magnetism and static electricity. Then have students complete the Venn diagram. *(Microsoft Word Document: 5SC_Info_Sheet_Charging_Comparisons.doc)* *(Microsoft Word Document: 5SC_Venn_Charging_Comparisons.doc)*
classify organisms to simplify the study of living things (GCPS, ITBS) (5SC_D2006-12)	1. Creativity and Innovation 4. Critical Thinking, Problem Solving and Decision Making 6. Technology Operations and Concepts	Work with your LSTC to make the document available to all students. Students use the MSPublisher trading card template to complete 5 trading cards, one for each type of vertebrate. After printing the trading cards, have students draw a picture on the other side of the trading card. Use the classification rubric to assess the student projects. *(Publisher Template: 5SC_Trading_Cards.pub)* *(Microsoft Word Document: 5SC_Classification_Trading_Card_Rubric.doc)*
identify the cell as the building block of living organisms (GPS, ITBS) (5SC_D2006-13)	1. Creativity and Innovation 4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Have students use Kid Pix to draw an example of either an animal or plant cell, or one of each if time permits. Students should use the text tool to label parts of the cell.
compare and contrast the characteristics of learned behaviors and inherited traits (GPS, ITBS) (5SC_D2006-14)	2. Communication and Collaboration 3. Research and Information Fluency 4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Use an overhead projector or class lab time to access the following website(s) to improve student understanding of learned behaviors and inherited traits. http://www.sciencenetlinks.com/interactives/zap.html Students complete zap activity and then work in small groups to compare and contrast learned behaviors and inherited traits. http://www.amnh.org/ology/index.php?channel=genetics#channel Students can use the Nature vs. Nurture Walk in Mendel Park to determine which traits are due to nature and which traits are due to nurture. (There are several other activities on this site as well).