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Education 323

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Life Science Resources

Websites:

1. NOVA: Kingdom of the Seahorse
    a. Description: Students learn about the basic anatomy of the seahorse as well as information about its habitat, reproduction, size, and diet. This website could act as a supplement to a lesson plan about adaptation and environmental needs.
    b. Link: http://www.pbs.org/wgbh/nova/seahorse/basics.html
2. Cheek Swab: Seeing your DNA
    a. Description: Students can utilize this description of the cheek swab lab as a resource to conduct the experiment on their own small groups. This lab works in a similar fashion as the strawberry DNA lab we did in class.
    b. Link: http://www.livescience.com/37252-dna-science-experiment.html
3. The Cell Song
    a. Description: Students learn about the organization of cell structures, their functions, and the difference between animal and plant cells through the catchy "cell song" rap.
    b. Link: https://www.youtube.com/watch?v=-zafJKbMPA8
4. Human Body Facts: Skeletal and Bone Facts (Science Kids)

a. Description: Students can explore different interesting facts about the skeletal system.

b. Link: http://www.sciencekids.co.nz/sciencefacts/humanbody/skeletonbones.html

5. Biology Videos: Bacteria Growth Video (Science Kids)

a. Description: Students will watch this video closely as bacteria grows in numbers rapidly by dividing in two over and over again in fast succession. Spreading so quickly, bacteria numbers can grow from one to literally billions in just one day.

b. Link: http://www.sciencekids.co.nz/videos/biology/bacteria.html

Apps/Virtual Labs:

1. Living or Nonliving Module (online)

a. Description: Students explore similarities and differences between living and nonliving things. Students will also learn about four shared characteristics of life. Students will learn to identify living and nonliving through these clues by comparing the characteristics that they have learned through the two modules. "Memory Match" and "The Checklist."

b. Link: https://www.science4us.com/elementary-life-science/living-things/livingnonliving/

2. Quiver App

a. Description: The quiver application uses 3D augmented reality to bring flat coloring pages to life. This application could be utilized in the classroom to teach biomes of the world. The Quiver application even claims to contribute to the development of fine motor skills, reduces stress, and provides creative expression through the art of coloring in the classroom.

b. Link: http://www.quivervision.com/apps/quiver/

3. Characteristics of Life (online crossword puzzle)
    a. Description: Students will review the characteristics of life through identification and recognition of the seven characteristic definitions. To supplement this activity, I would provide a word bank for students.
    b. Link: https://crosswordhobbyist.com/170503
4. "Clickable Croc" Interactive
    a. Description: Students explore what makes the Nile crocodile such a fearsome predator. Students will discover the anatomy of a crocodile, from tail to teeth by clicking on the different body parts of an interactive picture of the scary croc.
    b. Link: http://www.pbs.org/wgbh/nova/nature/clickable-croc.html
5. Body System Activities
    a. Description: Students can pick from a broad selection of different body systems to learn about, including bones, digestive system, ears, eyes, hair, immune system, and more!
    b. Link: http://kidshealth.org/en/kids/htbw/

Lessons:

1. Plants: Life Cycle and Part Functions
    a. Description: Students will identify key parts of different types of plants by labeling different diagrams after learning and reviewing vocabulary concepts. Students will also draw and label the life cycle process in small groups after conducting online research.
    b. Link: http://teachers.net/lessons/posts/4763.html

2. “Flu Fighters” Health Lesson Plan
    a. Description: Students will learn flu prevention, treatment, and recognition. This lab targets grades 1 and 2. This lesson is related to life science because it discusses disease prevention through the application of healthy behaviors. Students will answer questions about the flu, traveling station to station. The first station explains how the flu is spread: students will play a coloring game to simulate how the virus is spread exponentially. Students will also learn how to correctly wash their hands and how to maintain a healthy body. Specifically, students will participate in a station where they follow directions to wash their hands. Finally, students will learn about the vaccine itself and symptoms of the flu. Each student will be assigned a symptom to act out to a small group, and the other students will guess.
    b. Link: http://teachers.net/lessons/posts/4622.html
3. “Secrets of the Crocodile Cave” Classroom Activity Lesson Plan
    a. Description: The objective of the activity is to learn about a small segment of the complex food web of a region in Madagascar. Students will review food chains, and will then learn about energy pyramids. Finally, students will create energy webs by drawing arrows between different organisms (specifically animals) within the Madagascar population to depict energy flow. As a reflection activity, students would discuss what would happen if one or two animals were taken out of the food web.
    b. Link: http://www.pbs.org/wgbh/nova/education/activities/3102_croccave.html
4. Bird Beaks (Adaptations) Lesson Plan

a. Description: Students will explore the relationship between a bird's beak and its ability to survive in a given environment. Students will have the opportunity to "be a bird" by using different "beaks" meaning students will pick up different sized beads using different beak types including clothes pins and chopsticks. Students will compare which beak types are most successful for the given type of food.

b. Link: http://sciencenetlinks.com/lessons/bird-beaks/

5. Living vs. Nonliving Lesson Plan

a. Description: In this lesson, students learn about the characteristics that distinguish living things from nonliving things. By examining video clips and still photographs of a variety of objects and organisms, students gather evidence and develop criteria to decide if something is living or nonliving.

b. Link: http://tpt.pbslearningmedia.org/resource/tdc02.sci.life.colt.lp_living/living-vs-nonliving/

STEAM Lesson:

1. Build a Bottle Ecosystem

a. Description: Students will learn observe how populations of plants and animals interact within an ecosystem by designing their very own ecosystem in a bottle. The simplest ecosystem to design is the aquatic ecosystem.

b. Link: http://www.thegeoexchange.org/carboncycle/projects/bottle-ecosystem.html