Echinoderms

Science 7

Common Core Standard Addressed:	**Course Competency:**
RST6-8.3, RST 6-8.10	**I b, c, d IV. e**

NECAP Power Standards:
S:LS1:8:1.2, S:LS1:8:2.4,

Essential Questions:
- ✯ Describe the five classes of echinoderms
- ✯ Explain why the water vascular system is a survival advantage

Relevance/Rationale: (Why are these outcomes essential for future learning and how is it important in the real world?)
**This might be an adaptation of the process skills…or may be incorporated into it.

Relevance/Rationale: Science Process Skills:	**Science Knowledge:**
- Observation skills - Dissection - Diagramming	- Invertebrate diversity - Echinoderm characteristics and adaptations - Starfish anatomy

Learning Targets:

Must Know:	**Should Know:**	**Could Know:**
-List the five groups of echinoderms -Explain how the water vascular system works and what it does Vocabulary: ✯ Echinoderm ✯ Endoskeleton ✯ Nerve Ring ✯ Radial Nerve ✯ Water Vascular System	-Describe the five groups of echinoderms and name an example from each group - Explain why the water vascular system is a survival advantage (over the siphon system of previous specimen) Vocabulary: ✯ Echinoderm ✯ Endoskeleton ✯ Nerve Ring ✯ Radial Nerve ✯ Water Vascular System	-Create a comparative anatomy poster for the five groups of echinoderms highlighting their similarities and unique differences -Design a working model of the water vascular system Vocabulary: ✯ Echinoderm ✯ Endoskeleton ✯ Nerve Ring ✯ Radial Nerve ✯ Water Vascular System

Homework:	**Labs/Activities/Tasks:**	**Materials Needed:**
✯ Vocabulary ✯ Quest Study Guide ✯ Formal Lab Report w/analysis questions	Starfish Dissection Lab	Dissection instructions/lab outline Starfish specimen Dissection tray, probes, scissors, forceps, paper towels Safety equipment (goggles, aprons?) Ken-A-Vision or Dino-Lite (to view demonstration dissection) Dissection on DVD (for absent students)

Pre Assessments:	**Formative Assessments Criteria: (how will we know when they have met the goal)**	**Summative Assessments:**
	Echinoderms Reading Comp Sea Urchins Reading Comp	Quest Formal Lab Report (typed)

Access for All:	**Modifications/Accommodations:**
Allergies: allow students to view cd-rom of dissection to complete learning tasks/lab report if they provide a note from a parent that there is an allergy, or if it is	✯ **Notes:** allow students to have fill-in 2 column notes or highlight printed slides for those that need more intensive modifications

noted on the health form **Online Access:** all documents and completed notes are online for absent students or if documents get lost.	✯ **Dissection:** for those that have physical handicaps, they will be working with partners who can help with the physical portion of the dissection.

Resources:

- ✯ Echinoderm PowerPoint
- ✯ Echinoderm 2 Column Notes
- ✯ Sample echinoderm specimen to pass around that kids can touch
- ✯ Starfish Dissection video (CD-Rom)
- ✯ Online starfish dissection (http://library.thinkquest.org/13008/?tqskip1=1); also in "Cool Links" on Suzy's webpage