Title: Name That Shell! By Flametta Thompson (adapted from Picture Perfect Science Lessons 2nd Ed.)

Grade Level: 3rd grade Science

Time duration: 4-5 class periods

Big Idea(s)/Essential Question(s): Students will make observations and inferences about seashells, generate questions about seashells, create and use categories to organize seashells, and the use dichotomous keys to identify shells and other sea creatures by their characteristic.

Objectives(s): Content Standard A: Science as Inquiry; (k-4) Students will be able to ask a question about objects, organisms, and events in the environment.

Content Standard C: Life Science; Students will be able to understand that each plant or animal has different structures that serve different functions in growth, survival, and reproduction.

Materials: Picture books: Seashells by the Seashore by Marianne Berkes, A House for Hermit Crab by Eric Carle

* Assorted seashells
* Rulers or tape measures
* Balances
* Hand lenses
* Resealable plastic sandwich bags containing 6 or7 different kinds of the numbered shells labeled A-G (Cockle, Whelk, Olive, Kitten’s Paw, Auger, Scallop, Jingle)
* Poster board
* Science Journals

Student pages:

* Let’s Learn About Shells Anticipation Guide
* Name That Shell! Dichotomous Key
* Name That Shell! Shell Drawings
* Under the Sea Dichotomous Key

Activities/Tasks/Procedures:

**Engage:** Teacher will show the book cover of *Seashells by the Seashore* and read the first two pages. Teacher will place a copy of the Seashell O-W-L (like a KWL chart) on the overhead projector/camera. Students will copy chart in their Science Journals then, draw and make quantitative (numbers) and qualitative (words) observations of their shells carefully using materials provided. Teacher will allow volunteers to share descriptions of another group shells to locate that student’s shell. Teacher will allow students to record questions about their shells in the wonderings column.

**Explore:** Teacher will place a copy of the Shell Sorting Sheet on the overhead projector. Students will create a similar T- chart in their Science Journals. Students should examine the physical characteristics of the shells. Students will be given an assortment of seashells to observe and sort into two groups. Groups will switch with other groups and guess what characteristic was used to sort the shells.

**Explain:** Students will explain to another student what characteristic they used to sort the shells and why. Teacher will use students’ characteristics to review how to create a semantic web.

Next, students will complete the “before column” on the Anticipation Guide by answering true or false. Teacher will complete the reading of *Seashells by the Seashore.* Students will signal- “touch your ear”- when they hear answers to the questions from the anticipation guide. Students will complete the “after reading” column on the guide. Teacher will discuss the questions with class and the correct answers. Students should cite evidence from text to support their answers. Students should begin adding to the Learning column of their Seashell O-W-L.

**Introduce new Vocabulary:** bivalve, and univalve

Teacher will write new vocabulary on the board. Students will draw 2 Frayer’s Webs in their science journals. Teacher will discuss the words meanings and use the seashells to model examples. Students will record their definitions, characteristics, examples, and non-examples on the vocabulary squares of the Frayer’s web in their science journal.

**Explore and Explain:** Teacher will introduce the Name That Shell! Dichotomous Key as a special tool scientists use to identify organisms. Teacher will explain that *dichotomous* means to divide into two parts. Teacher will explain the steps of using the pictures and characteristics to identify the objects. Then, lead students through the dichotomous key to identify the shells. Students will continue in groups. Students will share their answers and explain.

**Elaborate:** Teacher will read and discuss *A House for Hermit Crab.* Students will infer from the cover what book will be about. Other Possible Questions:

* What do you know about hermit crabs?

After Reading,

* Why does hermit crab need a shell? (for protection)
* Does Hermit Crab choose bivalve shells or univalve shells to make his home? Why? (univalve shells because he can hide inside them; univalves because they have a smaller opening; bivalves are only half of a shell after animals inside them die)
* What are some of the other animals that Hermit Crab encountered? (sea anemone, starfish, sea urchin, and others)
* What characteristics might scientists use to classify them? (number of body parts, how they move, type of body covering)
* What tool could you use to identify the animals if you didn’t know what they were called? (a key or a dichotomous key)

**Evaluate**: Students will use the Under the Sea! Dichotomous Key to identify various sea creatures. Students will record correct response on answer sheet. Then in a group, students will create a semantic web on a seashell poster using their notes, worksheets, literature books, and other resources to record or draw what they learned.

Note: All adaptations or additions including the use of Frayer’s web, and semantic web are noted throughout the lesson in red.