Station F

Words in RED are important-make sure you know them!

What you do:

1) How do scientists classify living things? Why are bread mold, Euglena, starfish and corn plants placed in different groups? Discuss why biologists use a hierarchical system to organize all life on Earth.
   a) Use the F – 1a card set on Mat F – 1 to show how living things are classified.
   b) Record terms and descriptions that you need to remember in your notebook such as: prokaryotic, eukaryotic, autotroph, heterotroph, unicellular and multicellular.
   c) What is shown outside the circle? Why are these outside the circle?
   d) Systematics is the branch of biology that uses taxonomy to place organisms into groups. Why is it important for scientists everywhere to use the same taxonomic system? What information is used to determine in which group an organism belongs?
   e) Use the F – 1e card set to quiz your group. Put all the cards into sets of 3. Each set will have a question card, an answer card, and an example card.
   f) Go to http://tinyurl.com/h454tok and watch the 10 minute video Discovering the Great Tree of Life.

2) Taxonomic diagrams use phylogeny (the evolutionary relationships among organisms) to show the divergence of lineages through time.
   a) Use the information on Mats F - 2 to review ways phylogenetic relationships are shown so that similarities and differences of related organisms can be identified.
   b) Try creating your own cladogram at http://tinyurl.com/3uoabcx. Instead of printing your example, draw it on the page in the F - 2 bag and glue it into your notebook.

3) A dichotomous key can also be used to identify organisms. Use the F - 3 card set and Mat F - 3 to identify each of the coral reef organisms by their names. Record your answers.

4) Arrange the F - 4 cards into the spaces on Mat F - 4. Explain how this diagram shows the relationship between classification and diversity in the living world.

5) All living things are composed of cells but primitive cells had to develop more complex organelles in order to evolve into the many groups of complex organisms we see today.
   a) Review how scientists think cells changed over time by using the F – 5a card set to lay out a diagram of the sequence of changes.
   b) Do scientists think plant cells or animal cells developed first? What is their explanation?
   c) Cut apart the sections of the Evolution of Cell Complexity Evidence notebook foldable in bag F – 5c. Glue the left edge onto a notebook page. Make drawings on the notebook page to highlight the points of evidence that are written on each section flap.
   d) Discuss the cartoon. Explain its meaning as it relates to organizational levels and classification of living things.

6) Tidy and reorganize all the station materials for the next group using them.