

Fourth Grade Classification Exercise

- 1) **WHAT is classification?** Organizing things, sorting and grouping by **Properties or Characteristics**. Have you ever used classification? At National Heritage museum: sorting artifacts by material to figure out which site your artifacts are from. (*Check w/ teacher that they did this!*) We sort and group all the time. **Ask children for examples:** (card collection, shells, laundry).
- 2) **WHY do we classify?** A classification system is useful when you have a **large collection**. A system makes it easier to **find something** in the collection, **study one feature**, **compare**, and **add new** information.
- 3) **EXAMPLE of classification system: How books are sorted in a library:** (Show on the black/white board).
Fiction- Organized by author's last name. Where would the latest Harry Potter book be shelved?
Non Fiction
i. **Non-fiction:** Melvil Dewey created the Dewey Decimal System that groups books by subjects and assigns them a unique number. E.g.
i. **900** - geography & history, **930** -ancient world; **931** ancient China; **932** ancient Egypt; **933** ancient Palestine etc.
Suppose another ancient civilization (Atlantis) was just discovered. What call # is it likely to have?

4) **Scientists create classification systems** to organize the things they study and to help them focus what the most important characteristics are.

EXAMPLE: Scientists who study bugs define INSECT PROPERTIES as (diagram):

- 3 pairs of legs;
- 2 antennae;
- 3 body segments (head, thorax and abdomen);
- hard shell or "exoskeleton"

Suppose you are a scientist wondering around the jungle and you found this (show attached photo of tick). What is it? Is it an insect? **Class should see tick is not an insect.**

Scientists have another category "Arachnid". ARACHNID PROPERTIES: **4** pairs of legs; **2** body segments & exoskeleton. They develop key properties to classify what they discover. They reclassify all the time.

5) **SUMMARIZE** There are many different kinds of classification systems.. **Work from General to Specific**. Try to use **meaningful properties**. A **dichotomous system** is one which keeps branching into 2 parts and looks at one property at a time. That's the type of classification system you will be using in your outdoor BBY walk. Remember -when is Classification is useful? Lots of information. Identifying key features.

6) **NOW YOU ARE GOING TO INVENT A CLASSIFICATION SYSTEM**
If you worked in a shoe store how organize shoes?

HOW: Shoe classification:

Divide class into 2 groups with a large sheet of blank paper or white board..

Label top node 'All Shoes' .**Ask every child to take off 1 shoe and to put it in the center.**

Observe and group. Find **meaningful properties** (related to function or meaningful differences Think about using properties that don't change. Is "clean or dirty" a good feature to classify?

Write the property in the node (e.g. Sneaker) and label branches/lines w/ Yes or No.

Start with most **general properties and work down to specifics**.

REGROUP To look at their two systems.

There is no right answer but ... How can you test effectiveness of the tree? New information

Try a new shoe (teachers)

When might a classification tree have to be changed? (new discovery that doesn't fit key)

6) **CLOSING: Tie in with BBY walk:** We'll look at how scientists classify trees on our BBY walk. You will be using a classification tool or "Key" to identify trees.
Can you think of why knowing how to do this might be useful?
(Identify trees that might be useful to you: which to tap, edible fruit/berries – which tree to cut down, research, understanding why a tree is sick, etc.)

