Prairie Activity: Classification of Animals: Twenty Questions Game

Purpose: to help students in grades 3-7 understand the classification of animals and to use higher level skills in questioning.

Objective: students will, after viewing the online unit of animals of the prairie and playing this game, be better able to identify classifications of animals, understand categories and classifications of things, and ask higher level questions.Time period: used as a skills-and-content-practice game after the introduction of the classification system. 10-20 minutes per session.

Grade Levels: 3-6
Time Required: 15-30 minutes
Can be used as a warm-up, break activity, too

Materials:
list of prairie animals, although this can be played with any study of animals.
classification chart* see link below
person to keep track of questions and verify question form

Chart content: Classification often used in elementary texts: with partial example

Kingdom	Kingdom = <u>Animal</u>
Phylum	Subphylum = <u>Vertebrates</u> or Invertebrates
Class	Class = <u>Mammals</u>, birds, reptiles, amphibians
Order	Order = <u>rodents</u>, carnivores,
Family	Family = <u>squirrels</u>, beavers, mice
Genus	Genus = gray squirrel, <u>prairie dog,</u>
Species	Species = <u>black-tailed prairie dog</u>

Here is a website with links to images and information: http://bps.boston.k12.ma.us/rc328sb/dw/dew590.htm
*and a page with a good chart: http://www.york.biosis.org/zrdocs/zoolinfo/gp_index.htm#chordates

Motivation:
Help the students read the printed chart on animal classification, pointing out the names of the divisions that you are studying in class. Practice with a few animals, finding them on the chart and tracing their classification up the chart.

Demonstrate the Twenty Questions game format with your students; say you are thinking of an animal. Students will at first ask in their yes-no questions if it is a gorilla, a squirrel, etc., any animal that pops into their head. Explain that they are going to learn a more efficient way of asking questions so that one can guess the answer in less than twenty guesses.

Using the chart, point out that one can eliminate lots of animal types by asking if the animal belongs to a certain phylum or class. Each group of students should use what classifications and terminology is understandable to them at their level.

Guide them in first asking question about certain classifications near the top of the chart (the hierarchy of classification); e.g., "Is it a vertebrate?" If the answer is yes, then all invertebrates are eliminated. The next question might be, "Is it a mammal?"; then all birds, reptiles and amphibians are removed. Family may be the last category in some lower grades: "Is it a squirrel (or rabbit)?" Students will have to be taught about Orders, too.

In higher grades, the concepts of genus and species are better understood. An example of the dog could be used to to introduce here. Other questions that relate to habitat or appearance also help eliminate suspects: "Does it eat plants(meat, everything)?"; "Is its home underground (up a tree)?"; "Does it have fur (hair)?"; and closing in on a species, "Is it brown (spotted, striped)?"

Procedure:
Two teams can be formed, or students can be picked individually to stump the class and all participate, whichever works best with your students.

If younger students have a picture of their animals, they may help them to focus and be better able to answer the others' questions.

As each questioner asks his/her question, the teacher will monitor it, to stop questions like "Is it a mouse?" before its being a mammal or rodent is established. Students will soon be able to monitor, too.

Keep the game moving; keep track of how many questions were asked, and step in with suggestions if children get stuck. Write on the board the score of each animal: how many questions it took to guess-- the class can compete with itself (or teams can compete).

Variation:
Each student has the name of an animal pinned to his/her back. He/she asks other students the questions above, "Am I a vertebrate?" or "Do I live on the prairie?" They must answer to the best of their ability to help the subject guess the animal. Monitoring is necessary because friends like to give frieinds the answer.

Assessment: The teacher should be able to tell by the questions asked and the ability to answer if the students need more work with the chart or names of divisions. When students can play the game without hesitations and with animals other than prairie, they have the concept down.

Illinois Goals and Standards addressed:

Science: Goal 11: Late Elementary: 11.A.2c: Construct charts and visualizations to display data.
Goal 12.A: Know and apply concepts that explain how living things function, adapt, and change.
Lower Elementary:12.A.1a: Categorize living organisms using a variety of observable features.

Language Arts: Goal 1: Reading:
Upper Elementary: 1.B.2a: Read and comprehend unfamiliar words using root words, synonyms, antonyms, word origins, and derivations.
Middle School:1.B.3a: Apply knowledge of word derivation and origins to comprehend words used in a specific context.