Classroom Categorization

Overview: How many different categories can one class be divided into? This activity will show both the differences and similarities that we share. Discover as a group and display the results.

Procedure:
1) List the many different categories in which your class can be divided (hair color, eye color, height, age, music preference, etc.).
2) Sort the students into each of the various categories and keep a tally.
3) Display the results visually in a graph, chart, or diagram. Discuss the results.

ASOLs Covered in this Activity:

SCIENCE
3S-SI 1: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
a) observations and predictions are made and questions formed;
b) observations are differentiated from personal interpretation;
c) observations are repeated to ensure accuracy;
d) two or more characteristics or properties are used to classify items;
h) data are collected and recorded, and bar graphs are constructed using numbered axes;
i) data are analyzed, and unexpected or unusual quantitative data are recognized;
j) conclusions are drawn;
k) observations and data are communicated;
3S-SI 2: The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigations in which
a) observations are made and repeated to ensure accuracy;
b) predictions are formulated using a variety of sources of information;
c) objects with similar characteristics or properties are classified into at least two sets and two subsets;
g) questions are developed to formulate hypotheses;
h) data are gathered, charted, graphed, and analyzed;
i) unexpected or unusual quantitative data are recognized;
j) inferences are made and conclusions are drawn;
k) data are communicated;
5S-SI 1: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
a) distinctions are made among observations, conclusions, inferences, and predictions;
b) objects or events are classified and arranged according to characteristics or properties;
i) data are collected, recorded, analyzed, and displayed using bar and basic line graphs;

k) data are communicated with simple graphs, pictures, written statements, and numbers;

5S-SI :2 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
a) items such as rocks, minerals, and organisms are identified using various classification keys;

Extension Idea:
This activity can be expanded to sorting and categorizing just about anything. Adjust the parameters of the categories to include other aspects beyond the physical, such as function. For example: things that are categorized as "school supplies" can be sorted into smaller categories such as function (writing, cutting or separating, assembling, etc.)

5S-LPS 3: The student will investigate and understand important Virginia natural resources. Key concepts include
b) animals and plants.

5S-LPS 4: The student will investigate and understand that organisms are made of one or more cells and have distinguishing characteristics that play a vital role in the organism's ability to survive and thrive in its environment. Key concepts include
b) classification of organisms using physical characteristics, body structures, and behavior of the organism;

8S-SI 1: The student will demonstrate an understanding of scientific reasoning, Logic, and the nature of science by planning and conducting investigations which
a) observations are made involving fine discrimination between similar objects and organisms;
h) data are analyzed and communicated through graphical representation;

8S-SI 2: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
a) data are organized into tables showing repeated trials and means;
b) a classification system is developed based on multiple attributes;

8S-SI 3: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
h) data tables for descriptive statistics showing specific measures of central tendency, the range of the data set, and the number of repeated trials are constructed and interpreted;
i) frequency distributions, scatter plots, line plots, and histograms are constructed and interpreted;
j) valid conclusions are made after analyzing data;

8S-LS 3: The student will investigate and understand how organisms can be classified. Key concepts include
a) the distinguishing characteristics of domains of organisms;
b) the distinguishing characteristics of kingdoms of organisms;
c) the distinguishing characteristics of major animal phyla and plant divisions;
d) the characteristics that define a species.

Extension Idea:

Provide the students with images of a number of animals and have them sort the animals by various physical characteristics such as quadruped vs. biped or hairy vs. hairless. Then provide the students with information on each animal and have them sort them by non-physical characteristics such as nocturnal vs. diurnal or herbivore vs. carnivore. Record the results and display them in a graph or chart.

<mark>**READING & WRITING**</mark>

3E-RW 2: The student will
　　　　a)use newly acquired vocabulary drawn from reading and other content areas.
　　　　b) demonstrate understanding of the meaning of newly acquired vocabulary.
3E-CN 1: The student will
　　　　g) sequence at least two steps in a procedure or ideas/incidents in an event.
3E-CN 2: The student will
　　　　c) demonstrate an understanding of nonfiction text by connecting a visual element.
4E-RW 1: The student will
　　　　c)use newly acquired vocabulary drawn from reading and other content areas.
5E-RW 1: The student will
　　　　f) demonstrate understanding of content-specific words.
5E-WP 1: The student will
　　　　a) select a topic and use drawing, dictating, or writing to compose a message with one fact about the topic;
　　　　b) select an event or personal experience and use drawing, writing, or dictating to compose a message about it;
　　　　c) add more information to own drawing, dictating, or writing to strengthen the message.
5E-WP 2: The student will
　　　　a) use technology (including assistive technologies) to produce and publish writing;
　　　　b) write information related to personal experiences and answer simple questions about those experiences.
5E-WP 3: The student will
　　　　b) select a topic and write about it including one fact or detail;
　　　　c) select an event or personal experience and write one thing about it;
　　　　d) revise own writing by adding more information.
5E-WP 4: The student will
　　　　b) use spelling rules when writing by capitalizing the first letter of familiar names.
5E-WP 6: The student will
　　　　a) use technology to produce and share writing;
5E-WP 7: The student will
　　　　a) write to convey ideas and information clearly by selecting a topic using related visual, tactual, or multimedia information;
　　　　b) write to convey ideas and information by selecting a topic and listing words, facts, or details related to the topic;

c) produce writing that expresses more than one idea with a logical organization;

d) plan by brainstorming and revise own writing by adding more information;

e) use technology, including the Internet, to produce writing.

6E-CN 1: The student will

c) use content words and phrases from nonfiction text.

7E-CN 1: The student will

e) use content words and phrases from a nonfiction text.

8E-RW 1: The student will

e)acquire and use content words and phrases.

8E-WP 1: The student will

a)write to convey ideas and information including facts, details, and other information.

c) plan by brainstorming and revise own writing by adding more information;

d) use content specific vocabulary when writing about a topic.

8E-WP 3: The student will

b) write to convey ideas and information including facts, details, and other information as well as graphics and multimedia as needed.

8E-WP 5: The student will

b) write to convey ideas and information clearly including facts, details, and other information.

c) produce writing that is appropriate for the task, purpose, or audience;

HSE-WP 1: The student will

b) write to convey ideas and information using clear organization and including facts, details, and other information as well as graphics and multimedia as needed.

c) The student will write about an event or personal experience by introducing the event or experience, at least one character, and describing multiple events in sequence.

HSE-RW 2: The student will

c) acquire and use content words and phrases.

Extension Idea:

After completing the activity, have the students write about their experience and what they learned. Particular attention may be given to content words and sequence of events. Encourage students to include illustrations, tables, graphs, and digital photographs. Texts might take the form of a PowerPoint presentation, book, journal entry, newsletter, or blog. These texts might make great additions to self-selected reading libraries.

MATH

3M-PSPFA 1: The student will

a) create picture graphs from collected measurement data;

b) use picture or bar graph data to answer questions;

c) insert data into a preconstructed bar graph template;

d) interpret data from a variety of graphs to answer questions.

4M-NSCE 1 The student will

a) compare numbers to each other based on place value groups by composing and decomposing to 50;

b) compare whole numbers (<, >, =);

5M-PSPFA 1 The student will

a) compare two sets of data within a single data display such as a picture graph, line plot, or bar graph;

b) represent and interpret data on a picture, line plot, or bar graph given a model and a graph to complete.

6M-NSCE 1 The student will

a) demonstrate a simple ratio relationship.

6M-PSPFA 1 The student will

a) display data on a graph or table that shows variability in the data;

b) summarize data distributions on a graph or table;

c) answer a question related to the collected data from an experiment, given a model of data, or from data collected by the student.

7M-NSCE 3 The student will

a) use a ratio to model or describe a relationship;

HSM-FS 2 The student will

a) indicate general trends on a graph or chart.

HSM-FS 3 The student will

a) given data, construct a simple graph (table, line, pie, bar, or picture) and answer questions about the data.

Extension Idea:

Have the students work in small groups to sort and categorize objects within the classroom or school building. Collect data and display the results.

History

HS-H 1: The student will recognize that history describes events and people of other times and places by

a) identifying examples of past events in legends, stories, and historical accounts of Powhatan, Pocahontas, George Washington, Betsy Ross, and Abraham Lincoln;

b) identifying the people and events honored by the holidays of Thanksgiving Day; Martin Luther King, Jr., Day; Presidents' Day; and Independence Day (Fourth of July).

HS-H 2: The student will interpret information presented in picture timelines to show sequence of events and will distinguish among past, present, and future.

HS-H 3: The student will describe the stories of American leaders and their contributions to our country, with emphasis on George Washington, Benjamin Franklin, Abraham Lincoln, George Washington Carver, and Eleanor Roosevelt.

HS-H 4: The student will discuss the lives of people associated with Presidents' Day, Columbus Day, and the events of Independence Day (Fourth of July).

HS-H 5: The student will explain how the contributions of ancient China and Egypt have influenced the present world in terms of architecture, inventions, the calendar, and written language.

HS-H 6: The student will compare the lives and contributions of three American Indian cultures of the past and present, with emphasis on the Powhatan of the

Eastern Woodlands, the Lakota of the Plains, and the Pueblo peoples of the Southwest.

HS-H 10: The student will study the exploration of the Americas by
a) describing the accomplishments of Christopher Columbus, Juan Ponce de León, Jacques Cartier, and Christopher Newport;
b) identifying the reasons for exploring, the information gained, the results of the travels, and the impact of the travels on American Indians.

==**Not all of the standards that could apply to this activity are listed in order to save space**==

 Extension Idea:
Use content of your current history lesson to expand this lesson even further. Give the students categories based on current subject matter such as WWI, WWII, Vietnam or England, France, and America. Then have students provide and list various characteristics or facts about each category. Sort and then compare the results. Discuss the differences and similarities.

Materials Needed:
 -writing utensils
-data or tally sheets
-graphing materials (pre made graphs, objects to use for graphing)

Instructional Setting:
This activity can be done in the general education or special education classroom.

Community Connections and/or Peer Interaction:
-Students can work together in small groups.
-Students can be paired with typically developing peers to gather information and graph results.
-A community training trip to a grocery or home improvement store to categorize, tally and graph items found on specific aisles of each store.
-During a school drive for winter items, school supplies or other items students can present results of collected items.
-Survey other classes in the school to categorize gender, hair color, left/right handed etc..

Functional Activity/Routine:
This activity encourages functional skills such as following instructions, dictating instructions, making observations, and critical thinking. It demonstrates the concept of classification and the overlapping that can occur naturally.
-Tallying and graphing can be incorporated into a variety of daily activities done as a group during math work, calendar or morning meeting.

Strategies to Collect Evidence:
For collection of evidence, be sure that each student records data and conclusions individually.

Specific Options for Differentiating this Activity:

-Prepare, as necessary, for each student to make choices and communicate with their
  preferred method. This may include using augmentative communication.
-Adjust the activities difficulty based on your students' ability.
-Students with varying skills can be assigned jobs to do based on their needs or skill level.
-Allow students to use their preferred "pencil" when writing. This may include a writing
  utensil, keyboard, alternative pencil, or dictating to a scribe.
-Allow for graphing with objects to represent the data taken to be placed on a larger graph.