🐾 Lesson Plan: Classifying Organisms

Grade Level: 4
Subject: Science
Duration: 45–60
NGSS 4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

🎯 Learning Objectives

By the end of this lesson, students will be able to:

- **Define** scientific classification as the process of grouping organisms based on shared characteristics.
- **List** the seven levels of classification in order: Kingdom, Phylum, Class, Order, Family, Genus,

💼 Materials Needed: (all links are included in this PDF)

- Printed copies of the Study Guide (https://newpathworksheets.com/api/guide/study-guide-science-grade-4-classifying-organisms.pdf)
- Classifying Organisms Quiz (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-classifying-organisms-0.pdf)
- Kingdom Facts Worksheet (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-classifying-organisms-1.pdf)

- Vocabulary Matching 1 (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-classifying-organisms-1.pdf)
- Vocabulary Matching 2 (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-classifying-organisms-2.pdf)

Lesson Procedure

Step 1: Introduction (5 minutes)

- Hook students by asking: 'If you went to a library to find a book about sharks, how would you know where to look? Why aren't books just thrown on the shelves randomly?'
- Introduce the concept of 'Scientific Classification' using the Study Guide, explaining that scientists organize living things just like a library organizes books. (https://newpathworksheets.com/api/guide/study-guide-science-grade-4-classifying-organisms.pdf)

- Have students work in pairs to complete 'Vocabulary Matching 2', focusing on terms like 'Family', 'Genus', and 'Eubacteria'. (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-classifying-organisms-2.pdf)

Step 4: Independent Practice (10 minutes)

- Hand out the 'Kingdom Facts Worksheet'. Students must analyze the charts to determine the missing characteristics (e.g., cell type, food source) for Animals, Plants, and Fungi. (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-classifying-organisms-1.pdf)

- Circulate the room to assist students in distinguishing between unicellular (e.g., Eubacteria) and multicellular organisms.

Step 5: Assessment (5 minutes)

- Administer the 'Classifying Organisms Quiz' to check for mastery. Questions cover the definition of classification and the correct order of the hierarchy. (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-classifying-organisms-0.pdf)
- Review the 'Lesson Checkpoint' questions from the Study Guide as a class wrap-up.

Differentiation Strategies

For advanced learners:

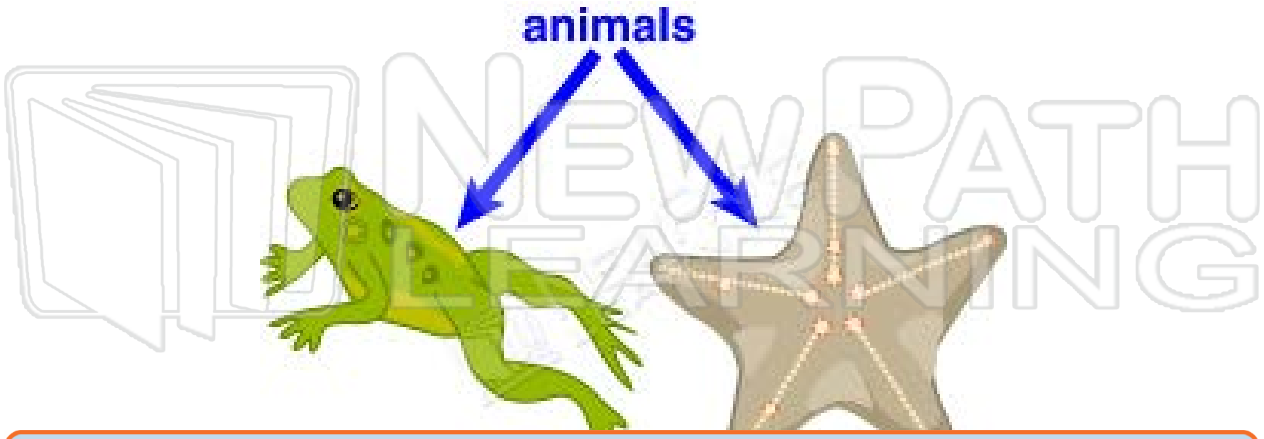
- Challenge students to create their own mnemonic device for the 7 levels of classification

- Study Guide PDF (https://newpathworksheets.com/api/guide/study-guide-science-grade-4-classifying-organisms.pdf)
- Worksheet PDF 0 (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-classifying-organisms-0.pdf)
- Worksheet PDF 1 (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-classifying-organisms-1.pdf)
- Worksheet PDF 2 (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-4-classifying-organisms-2.pdf)

- Vocabulary PDF 1 (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-classifying-organisms-1.pdf)
- Vocabulary PDF 2 (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-classifying-organisms-2.pdf)
- Vocabulary PDF 3 (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-classifying-organisms-3.pdf)
- Vocabulary PDF 4 (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-4-classifying-organisms-4.pdf)

CLASSIFYING ORGANISMS

Scientific classification is the process of **grouping living organisms** into certain categories based on their characteristics, traits, and appearance.



nucleus or not, and
- Whether the animal makes or finds its own food.

Lesson Checkpoint:
What is one characteristic that scientists consider in an organism when classifying that organism?

The **order of scientific classification** is kingdom, phylum, class, order, family, genus, and species.

Some people take the first letters of each classification *K, P, C, O, F, G, S * and make up a sentence to help them remember the correct order of classification. A sentence like **K**ing **P**atrick **C**ame **O**ver **F**or **G**reen **S**lime.

Each time we move to a **different classification** category, the groups get smaller and more specific. So, for example, there are many, many animals in a kingdom, but not as many in a genus or a species, because those are smaller groups within the kingdom.

When classifying animals, **KINGDOM** is the **largest** category. A kingdom includes a great number of different kinds of organisms. Each organism within the same kingdom has similar cell structures and body functions.

3. Fungi
4. Protista
5. Eubacteria
6. Archaebacteria

Lesson Checkpoint:
What are the six kingdoms scientists have found so far?

Animal Kingdom Facts

Out of the six kingdoms, the animal kingdom is the **largest**.
# of cells: multicellular
type of cells: have nucleus
food: have to find own food, can't make their own

Plant Kingdom Facts

of cells: multicellular
type of cells: have nucleus
food: make their own food

Fungi Kingdom Facts

The Fungi Kingdom includes organisms like mushrooms.
# of cells: most multicellular
type of cells: have nucleus

type of cells: no nucleus
food: make their own food

Lesson Checkpoint:
What is archaebacteria?

After sorting organisms into kingdoms, scientists **continue** to organize the organisms into smaller groups. As scientists continue to divide animals into smaller groups, the **groups** get more and more specific each time.

Phylum is the next category **after kingdom**. A well-known phylum is **Chordata**, which contains all animals such as fish, birds, mammals, reptiles, amphibians. These animals are all vertebrates, meaning they have backbones.

The **next category** after Class is **Order**. Orders can then be broken down again into a **Family**.

The next category is **Genus**, which is a group of closely related living things.

Finally, the genus is broken down into the **Species**. Species are the smallest groups. They are a group of organisms that look very similar and have the ability to reproduce among themselves.

Scientists give every living organism a scientific name. An organism's **scientific name** contains the genus name and the species name. Humans belong to the homo genus and the sapiens species. Our **scientific name** is Homo sapiens.

Genus

Species

Lesson Checkpoint:
Scientific classification goes from extremely general (kingdom) to what??

Classifying organisms

Sci D

Name_____ Class_____ Date_____

1 _____ is the process of **grouping living organisms** into certain categories based on their characteristics, traits, and appearance.

A Scientific identification
B Scientific researching
C Scientific classification
D Scientific populating

2 When classifying organisms, one of the things that scientists consider is the number of cells that make up the organism. Organisms made up of many cells are multicellular. What is the term used for organisms that are made up of **only one cell**?

A unicellular
B many cellular
C multicellular
D no cells

3 Organisms that **have** a cell nucleus and those that do **not have** a cell nucleus are put into different groups. Knowing this, what do scientists keep in mind when **classifying** organisms?

A if the cells have cytoplasm

4 Organisms either **find** or **make their own** _____. Scientists consider the organism's method of survival when **classifying** organisms.

A water
B food

5

7

A smaller **C** greater
B bigger **D** larger

D genus

9 Scientists recognize **six kingdoms**: Animals, Plants, Fungi, Protista, Eubacteria, and Archaebacteria. What do organisms within the same kingdom have in common?

A ability to hunt
B large cells
C fur
D similar cell structures and body functions

10 Out of the six kingdoms, the _____ Kingdom is the **most diverse**.

A Animal
B Fungi
C Archaebacteria
D Plant

Classifying organisms

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Name_____ Class_____ Date_____

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A Animal
B Fungi
C Archaebacteria
D Plant

A

Classifying organisms

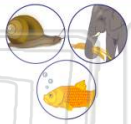
Sci D

Name_____ Class_____ Date_____

1 What fits best in **box X**?

Animal Kingdom Facts	
# of cells	X?
Type of cells	have nucleus
Food	cannot make their own

A one-celled
B multicellular
C unicellular
D they have no cells



2 What fits best in **box Y**?

Plant Kingdom Facts	
# of cells	multicellular
Type of cells	Y?
Food	cannot make their own

A they have no cells
B their cells have no nucleus
C their cells have a nucleus
D they have no cell wall

3 The **Fungi Kingdom** includes organisms like _____.

A ferns
B flowers
C mushrooms
D trees

4 The _____ Kingdom includes organisms such as **amoebas** and **algae**. This group of organisms is mostly unicellular, their cells have a nucleus, and some make their own food.

A Protista

5

7

environments
D in your house

B multicellular **D** many-celled

9 After classifying organisms into kingdoms, scientists **continue** to break down the organisms into _____ groups.

Kingdom → Phylum → Class → Order

A bigger **C** larger
B greater **D** smaller

10 As scientists continue to divide animals into smaller groups, the **groups** get more and more _____ each time.

A larger
B unclear
C specific
D vague

Classifying organisms

Sci D

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# of cells	X?
Type of cells	have nucleus
Food	cannot make their own

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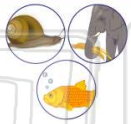

B

2 What fits best in **box Y**?

Plant Kingdom Facts	
# of cells	multicellular
Type of cells	Y?
Food	cannot make their own

A they have no cells
B their cells have no nucleus
C their cells have a nucleus
D they have no cell wall

C

3 The **Fungi Kingdom** includes organisms like _____.

A ferns
B flowers
C mushrooms
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4 The _____ Kingdom includes organisms such as **amoebas** and **algae**. This group of organisms is mostly unicellular, their cells have a nucleus, and some make their own food.

A Protista
B Animal

A

5

C

7

environments
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D many-celled

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Kingdom → Phylum → Class → Order

A bigger
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10 As scientists continue to divide animals into smaller groups, the **groups** get more and more _____ each time.

A larger
B unclear
C specific
D vague

C

Classifying organisms

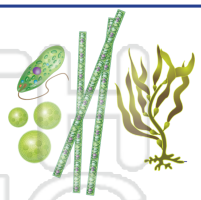
Sci D

Name_____ Class_____ Date_____

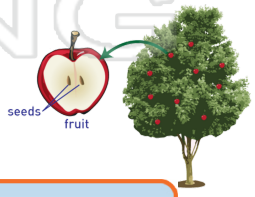
Match each of the following terms to its definition:

Class	Autotroph	Chordata	Algae
Angiosperm	Animal	Archaebacteria	Classification

1. - a large and diverse group of simple, plant-like protists ranging from unicellular to multicellular organisms; plant-like protists that contain chloroplasts and are autotrophic



2. - a plant that produces flowers and develops fruit around its seeds



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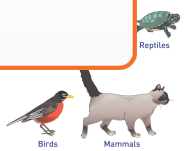
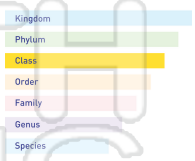
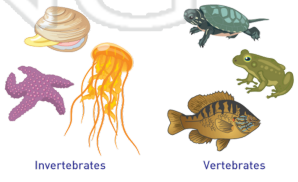


7. - group in the scientific classification system that comes after phylum and before order grouping



8. - the process of grouping items together according to their similarities



Classifying organisms

Sci D

Name_____ Class_____ Date_____

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Class	Autotroph	Chordata	Algae
Angiosperm	Animal	Archaebacteria	Classification

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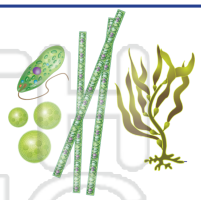
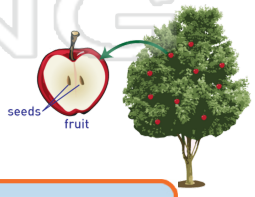


2. angiosperm - a plant that produces flowers and develops fruit around its seeds



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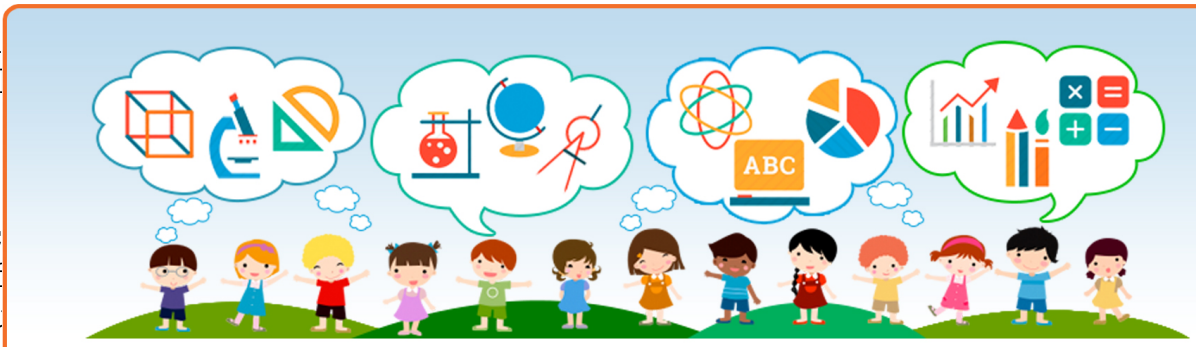

PREVIEW

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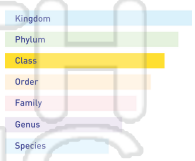
7. class - group in the scientific classification system that comes after phylum and before order grouping



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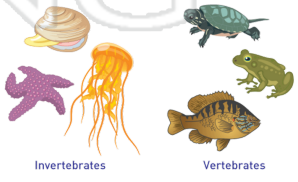


Classifying organisms

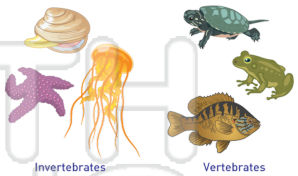
Sci D

Name_____ Class_____ Date_____

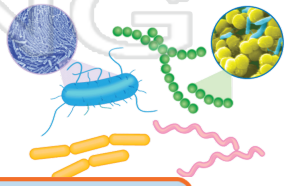
Match each of the following terms to its definition:

Hyphae	Fungi	Genus	Eubacteria
Classification	Family	Heterotroph	Gymnosperm

1. - the process of grouping items together according to their similarities



2. - one of two different domains of bacteria known as true bacteria; a kingdom of classification which includes unicellular organisms that do not have a nucleus; some make their own food and some need to obtain food from other sources



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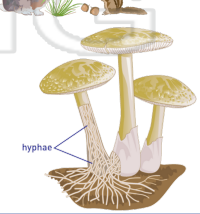
7. - a living organism that is not capable of producing its own food; also known as a consumer

8. - threadlike filaments of branching cells that make up the bodies of multicellular fungi



Classifying organisms

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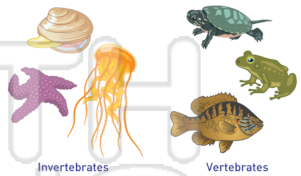

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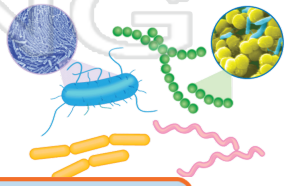

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