

## Lesson Plan 1

Subject/Grade Level: Biology I, 9<sup>th</sup> Grade

### TEKS:

112.34 Biology (c) (8) (C) Compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals.

### ELPS:

74.4 (c) (3) (E) Share information in cooperative learning interactions.  
74.4 (c) (5) (B) Write using newly acquired basic vocabulary and content-based grade-level vocabulary.

### CCRS:

Science Standards (I) (C) (1) Collaborate on joint projects.  
Science Standards (V) (D) (1) Understand that scientists categorize things according to similarities and differences.

### Objective:

Students will match on a worksheet definitions and examples of each taxonomic kingdom: archaeobacteria, eubacteria, protista, fungi, plantae, and animalia to the correct group with 80% accuracy.

### Focus:

“Last Class...” slide on PowerPoint. Slide briefly going over the three domains.

#### Check for understanding:

- Teacher will ask students to recall the names of the three domain groups talked about last class.

“The 3 Domains” slide on PowerPoint.

“Today in Class..” slide on PowerPoint.

“The 6 Kingdoms” slide on PowerPoint.

“Lets Get Creative” slide on PowerPoint. With shoulder partner, students will come up with a mnemonic for **Archaeobacteria, Eubacteria, Protists, Fungi, Plants, and Animals** to help them remember the Kingdoms. Teacher will call on a few to share their mnemonic. Teacher will call on a few groups to share their mnemonic. **\*\*Teacher will draw a 6 ring venn diagram on the board. Students will write on sticky notes characteristics they can think of for each kingdom, students will then bring sticky notes to the board and place them in the part of the venn diagram they think it belongs in.\*\***

### **Instructional Delivery:**

Hand out "The 6 Kingdom Notes" chart. PowerPoint presentation, which will explain and give examples of each kingdom. Students will fill out chart as teacher is talking about each kingdom. Teacher will also be filling out sheet on doc cam as lecture occurs so students also have a visual aide. **\*\*Students will highlight words they do not know the meaning to or learned during the lesson. At the end of class students will write the words on the word wall and teacher will go over vocabulary on the word wall.\*\***

"Archebacteria" Slide. Talk to students about what "archae" means (*ancient*). Explain to students what prokaryotic (*lacks membrane bound organelles*) and unicellular (*single celled*) means. Explain the difference in heterotrophic (*rely on other organisms for food*) and autotrophic (*produce own food*). Point to picture of hot spring and tell students that the picture is from Yellow Stone National Park, then point to thermophile picture and show them they thrive in hot spring environment.

"Eubacteria" Slide. Explain to students what "eu" means (*true*). Explain picture of hand... 7 year old's hand placed onto a cell culture plate. All that is showing on the hand is a different bacterium. This will show students that bacteria are everywhere.

"Protista" Slide. Explain what eukaryotic (*has membrane bound organelles*) means. Ask students why Protista is a "catch all" category, if no one knows, explain why this is. Point out pictures (*top right is euglena, bottom right are diatoms*).

"Fungi" Slide. Ask students to explain why fungi are heterotrophic and not autotrophic.

"Plantae" Slide. Ask students if plantae are autotrophic or heterotrophic. Explain that plants are multicellular and eukaryotic cells.

"Animalia" Slide. Ask students if animals are unicellular or multicellular. Point to animal cell and explain that we will be going over soon in class the parts of an animal cell.

Check for understanding:

- ARCHAEABACTERIA-
  - What are some other places you might find archaeobacteria?
- EUBACTERIA-
  - Are these unicellular or multicellular?
- PROTISTA-
  - Why do you think this kingdom is such a broad/catch-all category?
- FUNGI-
  - What fungi are unicellular?
  - Are these heterotrophic or autotrophic?
  - Why are fungi heterotrophs?
- PLANTAE-
  - Are these heterotrophic or autotrophic?
- ANIMALIA-
  - Are these unicellular or multicellular?

**Guided Practice:**

“Lets Practice” slide on PowerPoint. Student will flip over their chart sheet, which will provide practice questions. They will be given a few minutes to complete practice questions. Students will share answers with the class. Correct will be written out on board or on doc-cam. Incorrect answers will be discussed and corrected.

\*\*Ask class to make up a movement for each taxonomic group, class gets into pairs. Teacher will call out names of taxonomic groups, whoever can do the move the fastest in each pair wins. Winners will compete until one student remains.\*\*

Check for understanding:

- Teacher will ask for volunteers/call on students to provide answers to practice sheet.
- Teacher will write correct answers on board or doc-cam.
- Teacher will ask for clarification questions.

**Independent Practice:**

Students will work with shoulder partner to complete the worksheet, students may use their notes.

Check for understanding:

- Teacher will walk around the room to monitor discussions and progress.

**Closure:**

Students will answer closure statement in their science journal. Students will also have time to write and reflect in their journals about the lesson.

*Find two interesting facts about one of the kingdoms that we DID NOT talk about today. Write the two interesting facts in your science journal and bring to class tomorrow.*

Use closure as focus for next class, have students read aloud facts and have other students guess which kingdom it belongs to.

**Re-Teach:**

Students will work in small groups to travel around the room to different stations to complete a worksheet that compares and contrasts the following by definition: unicellular vs. multicellular, prokaryotic vs. eukaryotic, autotrophic vs. eukaryotic. Each station will also have facts and physical objects that students are able to hold and manipulate. This sheet will be available for the students to refer back to when they need assistance. Students will then create a Features Matrix comparing and contrasting the 6 kingdoms. They will then list 3 examples of each kingdom.

**Enrichment:**

1. Students will create a poster about an archaebacteria of their choice. The poster must include the name, a picture or drawing of the archaebacteria, the habitat it lives in, examples of actual environments it lives in, and 3 interesting facts about it. Students are free to get creative with this project.
2. Students will create a visual (foldable, flash cards, lego blocks, stacked cups, pop-up, etc...) stating the names of the 6 kingdoms. Students are free to get creative with this project.

**Accommodations:**

- For the hearing impaired students they will be seated at the front of the classroom. There will also be a designated note taker for the student so they may concentrate on the words and visuals of the lecture. The teacher will include lots of visuals and handouts during the lecture to ensure the student is able to follow along. Teacher will also be careful not to talk too fast or talk to the board. The student will also be allowed to record the lecture so they may rewind if they were unable to hear or understand a certain part of the lecture.

- For students who have difficulty expressing themselves in writing, the teacher will provide typed notes to the student. The student will be given a highlighter to highlight key points from the notes.

**Modifications:**

- For students who have difficulty completing assignments due to an intellectual disability, the worksheets will have fewer questions and a word bank to choose answers from. They will also be graded using different standards than the other students.