**Kingdom Bacteria and Kingdom Archaea and Classify Sheet         Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1.                  What type of cell is found in Bacteria and Archaea?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.                  What cell type do all creatures besides Bacteria and Archaea have? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.                   Define the term **species** and explain why a mule is not an example of a species?

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4.                  List the following about bacteria: cell type\_\_\_\_\_\_\_\_\_, number of cells per creature \_\_\_\_

Reproduction methods\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Feeding Methods \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Important Cell Wall Ingredient \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.                  What are the three main shapes of bacteria cells and the three main living arrangements of bacteria?

Common Names and Technical Names Please.

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6.                  Draw a Staphylococcus bacteria.

7.                  Draw a Diplobacillus bacteria.

8.                  What is the difference in terms of the cell wall contents between a Gram Positive Bacteria and a Gram Negative Bacteria?

Gram Positive Bacteria have lots of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the cell wall while

Gram Negative Bacteria have very little  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the cell wall.

9.                  After Gram staining what color do Gram Positive cells look? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.              After Gram staining what color do Gram Negative cells look? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.              What are four main features used to identify bacteria species?

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12.              Why can’t bacteria reproduce sexually? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13.              What basically happens when bacteria reproduce asexually?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14.              What happens basically when bacteria reproduce by conjugation?

How many bacteria does conjugation start with and how many does conjugation end with?

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15.              What is an **endospore**? When would a capable bacteria create an endospore?

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16.              What is the name of the “jello” like material used to grow bacteria on? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17.              What geometric shape do bacteria colonies grow in? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18.              What are **antibiotics**? What creatures can antibiotics kill?

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19.              What is antibiotic resistance?  How does antibiotic resistance occur?

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20.              Relate the story of the accidental discovery of antibiotics.

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      21. What are some of the extreme environments that members of the Kingdom Archaea live in?

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      22. Name three differences and two similarities between Kingdom Bacteria and Kingdom Archaea?

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      23. Where do the following types of Archaea live and what do they do (See text page 138)?

         Methanogens \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

         Halophiles\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

         Thermoacidophiles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Name three ways that Archaea and Bacteria either harm or benefit humanity?(See p 136-139)

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1. What do the following words mean? (See page 134 in textbook)

  Aerobic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Anaerobic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

  Facultative Anaerobe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

  Thermophile \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

26.  What does a taxonomist do?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

27.  What were the two Kingdoms in Aristotle’s classification system called?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_

28.  What Kingdom did Ernst Haeckel add? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

29.  Who is credited with the development of the 5 kingdom system of classification?\_\_\_\_\_\_\_\_

30.  What are the names of the three domains and six kingdoms used in the present system of classification?

31.  How are these kingdoms and domains organized? (See the diagram in your notes)