|  |  |
| --- | --- |
| **Name:** | **Date:** |
| **Course: Honors Biology 1 2 3 4 5 6 7 8 9**  | **Teacher:**  |

**Level 1 (59.5-69.5%)**

**List and describe the 8 characteristics of living things.**

1.

2.

3.

4.

5.

6.

7.

8.

|  |  |
| --- | --- |
| **Name:** | **Date:** |
| **Course: Honors Biology 1 2 3 4 5 6 7 8 9**  | **Teacher:**  |

**Level 1 (59.5-69.5%)**

**List and describe the 8 characteristics of living things.**

1.

2.

3.

4.

5.

6.

7.

8.

**Level 2 (69.5-79.49%)**

**Identify the following things as biotic (living) or abiotic (nonliving) based on what you know about Characteristics of Living Things**

Trees Fire E. coli bacteria Water

Use the Characteristics of Living Things to explain why fire is or is not alive.

Predict how the following scenarios will affect an individual organism and the entire species.

|  |  |  |
| --- | --- | --- |
| Scenario | How would this affect an individual organism | How would this affect an entire species |
| An individual organism can’t reproduce |  |  |
| An individual organism can’t growth or development |  |  |
| If an individual didn’t have viable cells |  |  |
| If organisms can’t respond to their environment |  |  |
| If organisms can’t maintain homeostasis  |  |  |
| If organisms could not pass on exact copies of their DNA |  |  |
| An individual organism can’t obtain matter & energy |  |  |

**Level 2 (69.5-79.49%)**

**Identify the following things as biotic (living) or abiotic (nonliving) based on what you know about Characteristics of Living Things**

Trees Fire E. coli bacteria Water

Use the Characteristics of Living Things to explain why fire is or is not alive.

Predict how the following scenarios will affect an individual organism and the entire species.

|  |  |  |
| --- | --- | --- |
| Scenario | How would this affect an individual organism | How would this affect an entire species |
| An individual organism can’t reproduce |  |  |
| An individual organism can’t growth or development |  |  |
| If an individual didn’t have viable cells |  |  |
| If organisms can’t respond to their environment |  |  |
| If organisms can’t maintain homeostasis  |  |  |
| If organisms could not pass on exact copies of their DNA |  |  |
| An individual organism can’t obtain matter & energy |  |  |

|  |  |
| --- | --- |
| **Name:** | **Date:** |
| **Course: Honors Biology 1 2 3 4 5 6 7 8 9**  | **Teacher:**  |

**Level 3 (79.5-89.49%)**

**Diagnose each organism by identifying which Characteristic of Living Things (COLTs) aren’t functioning properly. Cite the evidence from the text that supports your claim. You may list more than one COLT.**

Alex and Kat have been married for 5 years. They are both in their mid-twenties, have no known medical conditions, and live a healthy life style. Despite this, they have been trying to get pregnant for the last 2 years with no success.

COLT:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evidence: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lucy is a 5 year old girl. She says she doesn’t feel well and is presenting with the following symptoms: Sweating, Shivering, Headache, Muscle aches, Loss of appetite, Dehydration, and General weakness. Her current body temperature is 101F.

COLT:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evidence: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sam has a condition in which he cannot feel pain. He often suffers [oral cavity](https://en.wikipedia.org/wiki/Oral_cavity) damage both in and around the mouth (such as when he unknowingly bit off the tip of his [tongue](https://en.wikipedia.org/wiki/Tongue)). He has also had several fractures to bones and unnoticed [infections](https://en.wikipedia.org/wiki/Infection) that have progressed to the point where he had to be hospitalized. Because he cannot feel pain, he does not respond to problems, thus being at a higher risk of more severe diseases.

COLT:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evidence: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Karen has achondroplasia, a common cause of [dwarfism](https://en.wikipedia.org/wiki/Dwarfism). It occurs as a sporadic mutation in approximately 80% of cases (associated with advanced paternal age) or it may be inherited as an [autosomal](https://en.wikipedia.org/wiki/Autosomal) [dominant](https://en.wikipedia.org/wiki/Dominance_%28genetics%29) [genetic disorder](https://en.wikipedia.org/wiki/Genetic_disorder). She has a [short stature](https://en.wikipedia.org/wiki/Short_stature), with an adult height of 48 inches.

COLT:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evidence: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Adam has been diagnosed with cystic fibrosis (CF), a [genetic disorder](https://en.wikipedia.org/wiki/Genetic_disorder) that affects mostly the [lungs](https://en.wikipedia.org/wiki/Lungs) but also the [pancreas](https://en.wikipedia.org/wiki/Pancreas), [liver](https://en.wikipedia.org/wiki/Liver), [kidneys](https://en.wikipedia.org/wiki/Kidneys) and [intestine](https://en.wikipedia.org/wiki/Intestine)s. Long-term issues include [difficulty breathing](https://en.wikipedia.org/wiki/Shortness_of_breath) and coughing up [sputum](https://en.wikipedia.org/wiki/Sputum) as a result of frequent [lung infections](https://en.wikipedia.org/wiki/Pneumonia). Other [symptoms](https://en.wikipedia.org/wiki/Symptom) include [poor growth](https://en.wikipedia.org/wiki/Failure_to_thrive) due to inability to absorb nutrients in mucus covered intestines.

COLT:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evidence: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Angel has been diagnosed with Sickle-cell disease (SCD), also known as sickle-cell anemia (SCA), a hereditary [blood disorder](https://en.wikipedia.org/wiki/Blood_disorder), characterized by an abnormality in the oxygen-carrying [hemoglobin](https://en.wikipedia.org/wiki/Hemoglobin) molecule in [red blood cells](https://en.wikipedia.org/wiki/Red_blood_cell). This causes the cells to assume an abnormal, rigid, [sickle](https://en.wikipedia.org/wiki/Sickle)-like shape. Sickle-cell disease is associated with a number of acute and chronic health problems, such as severe infections, attacks of severe pain ("sickle-cell crisis"), and stroke.

COLT:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evidence: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Level 4 (89.5-100%)**

**For each of the above people, describe a treatment might be used to help them. Make sure your treatment addresses the COLTs you identified above.**

|  |  |
| --- | --- |
| Person | Treatment  |
| Alex & Kat |  |
| Lucy |  |
| Sam |  |
| Karen |  |
| Adam |  |
| Angel |  |