Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_

**Animal Nutrition & Feeding Notes**

1. ***List essential nutrients & their function***

|  |  |  |
| --- | --- | --- |
| * Needed for growth and repair * Helps form MUSCLES, internal organs, skin, hair, wool, feathers, hoofs and horns | * ENERGY * The largest portion of the food supply * Includes sugars, starch, and cellulose | * STORED Energy * Insulation & Protection |
| * Organic substance * CAN be broken down * Needed in small quantities | * Naturally occurring * Inorganic substance * Can’t be broken down further * Needed in small quantities * Necessary for:   -Building bones  -Growth  -Overall Health | * Animal’s body is made up of 70% water * Necessary for proper organ function * Vital to sustaining life |

*Are all animal’s dietary requirements equal?*

1. ***Identify factors effecting nutrition requirements in animals***

|  |  |
| --- | --- |
| **Maintenance**   * No loss or gain of weight * Known as *Basal Maintenance Requirement* * 50% of animals diet is used for maintenance | **Growth**   * Extra energy required to grow bones, support organ systems, develop muscle, etc. * Need high levels of fats and carbohydrates |
| **Work**   * Extra energy required to grow bones, support organ systems, develop muscle, etc. * Need high levels of fats and carbohydrates | **Gestation & Lactation**   * Pregnancy requires higher levels of nutrition and energy intake   (Especially at the end of pregnancy when the fetus is growing rapidly)   * Milk production requires even more energy   (Especially calcium, phosphorus, protein) |

****

1. ***Classify feed types and list examples and characteristics***

There are 3 types of feed:

1-

2-

3-

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Roughage** | **Concentrates** | **Supplements** |
| Definition: |  |  |  |
| Examples: |  |  |  |

***D. Compare & contrast common feeds according to species, age, and energy requirements***

Things to consider:

1-

* Premixed feeds are formulated specifically for the nutrient requirements of each species
* Type of digestive system determines which feeds an animal can digest
  + Ruminants can digest roughages
  + Monogastrics cannot break down roughage

2-

* Young, Adult, Senior?

3-

* Lactating/Gestation
* Heavy Work

1. ***Interpret a feed label***

**Feed Labels:**

* + Lists nutrients contained in feed
  + Lists minimum % of each nutrient
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ listed
* Usually have some feeding instructions

***F. Balance a ration***

**How to balance a ration:**

* **Ration =**
* Successful ration must:
  + Taste Good
  + Provide required \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Be the cost effective
    - A few hints:
      * Rations vary by species and energy requirement
      * Some rations mix roughage, concentrates, and supplements
      * Some rations meet all dietary requirements with 1 feed

**Pearson Square:**

Step #1: Label \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ names & \_\_\_\_\_\_\_

Step #2: Transfer feed name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ across

Step #3: Fill in desired \_\_\_\_\_\_\_\_\_\_\_\_ %

Step #4: Find absolute value of feed \_\_\_\_\_\_\_ and desired CP

Step #5: Find absolute value of feed \_\_\_\_\_\_\_ and desired CP

Step #6: Determine total \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

To mix a ration using Corn & Cotton Seed Meal Use:

\_\_\_\_\_ parts Corn

\_\_\_\_\_ parts Cotton Seed Meal

\_\_\_\_\_ Total Parts

Step #7: Translate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

100 lbs / \_\_\_\_\_ total parts =

Step #8: Determine pounds of \_\_\_\_\_\_\_\_\_\_\_feed

\_\_\_\_ parts Corn

\_\_\_\_ x \_\_\_\_= \_\_\_\_\_\_\_\_\_Pounds Corn

\_\_\_\_ parts Cotton Seed Meal

\_\_\_\_ x \_\_\_\_= \_\_\_\_\_\_\_\_Pounds Cotton Seed Meal

***Your Turn…***

A 1400-pound cow in the second trimester of pregnancy needs **8% protein.**

She is fed grass hay (**6%** protein) and soybean meal (**49%** protein)

Calculate how many pounds of each feed is required to mix a 100 pound ration of feed with 8% protein

