

 **Activity 5.2.1 The Essentials****Purpose**

All living things need nutrients in some form to live and grow. Plants receive nutrients through soil and water and use photosynthesis to make their own food. Animals must acquire their nutrients by eating food. Nutrients are elements or chemical compounds that aid in the support of life. They are necessary for cells to live, grow, and reproduce.

The nutrients that animals need are divided into six categories – carbohydrates, fats, protein, minerals, vitamins, and water. Your textbook divides the nutrients into five groups by combining the two energy sources, carbohydrates and fats, into one category. What are the sources of these nutrients for animals?

Materials**Per student:**

- *Modern Livestock and Poultry Production* textbook
- Pencil
- *Agriscience Notebook*

Procedure

Read Chapter 6 Feed Nutrients in your *Modern Livestock and Poultry Production* textbook. As you are reading, complete *Activity 5.2.1 Student Worksheet*. When you have finished reading, answer the analysis questions that follow the chart.

Conclusion

1. How are animal nutrient needs similar to your nutrient needs?

Because we eat carbs and proteins and drink water

1. What is the main source of nutrients for animals?

grains which are carbs dairy which are fats water which provides minerals and some form of protein

Name: _____

Activity 5.2.1 Student Worksheet

Directions: Complete the chart below as you read Chapter 6 of your textbook. Then answer the Analysis Questions that follow.

Nutrient Category		Composed of	Function in Body	Sources
Carbohydrate	Simple	Monosaccharide S sugar molecules	functions of carbohydrates in the body are to provide energy, store energy, build macromolecules, and spare protein and fat for other uses	Oats barley
	Complex			Peas beans
Fats and Oils		triglycerides	store energy, insulate us and protect our vital organs	dairy
Protein		essential amino acids	uilding and repairing muscles and other body tissues	Meat fish poultry eggs
Vitamins	Fat Soluble	A, D, E, and K	can be stored in your liver and fatty tissue until needed	fish liver oil. beef liver. cheese,
	Water Soluble	Thiamine triphosphate	Travel freely helping the animal	folate
Minerals	Major	Silicates, oxides, sulfates, sulfides, carbonates, native elements, and halides	Helps develop the body to grow	rocks, soil, and water
	Trace	iron, manganese, copper, iodine, zinc, cobalt, fluoride, and selenium		

Nutrient Category	Composed of	Function in Body	Sources
Water	H ₂ O	Provides water and not be dehydrated	Lakes, ponds, rivers

Analysis Questions

1. Why are carbohydrates and fats sometimes combined into one category?

Because they do the same function

2. What types of animals should be fed high fiber diets and why?

Pigs, cows because they will have the most carbs

3. If there is excess protein in the diet of an animal, what becomes of it?

Will not have much energy

4. Describe the difference in crude protein and digestible protein. Why is there a difference?

Crude protein has more protein than digestible because if the animal is low they could give them a dosage

5. What is the difference between a deficiency and a toxicity?

Deficiency is low level toxicity is high and dangerous