

Animals Unit Practice Test

1. When a bat is alive, it has energy stored in its living parts (muscles, fat, blood, etc.). When the bat dies all the parts are still there, but no longer alive.

a) Does a dead bat still contain energy? (*circle one answer*)

a. Yes

b. No

b) Explain your answer. If you answered YES, what kind(s) of energy are in the bat after it dies and where is energy stored? If you answered NO, why does a dead bat not have energy?

2. A class was interested in how dolphins grow. The teacher started the lesson by telling his students that a dolphin eats a lot of food each week but only gains a little bit of weight. The teacher asked, "What happened to the mass of the rest of the food?"

a. Three students shared their ideas about what happened. Do you agree or disagree with what each student claims?

Agree Disagree	Bianca: "The dolphin's body got rid of most of the extra mass of the food as solid waste (feces)."
Agree Disagree	Jared: "The dolphin's body turned the mass of the food into energy in order to grow."
Agree Disagree	Anup: "The dolphin breathed out most of the extra mass of the food as gases, like CO ₂ ."

b. Provide an explanation. Why do you agree or disagree with each student's claim? (*Explain EACH choice and why you agree or disagree – use your atom and energy rules and understanding of digestion and cellular respiration*)

Bianca

Jared

Anup

3. The class generated some data. They measured the starting mass of 5 dolphins and observed each dolphin in its own pool at a local aquarium. Then they gave each dolphin 30 kg of food and made sure the dolphins always had the same amount of water in the aquarium. After one week, the students measured the masses of the dolphins, leftover food and dolphin feces. Below are the data they generated.

Sample	Change in Dolphin mass (kg)	Change in food mass (kg)	Mass of solid waste (kg)
1	+2.0	-20.0	+4.0
2	+2.0	-20.1	+5.0
3	+3.0	-20.3	+5.0
4	+1.0	-10.9	+4.0
5	+4.0	-20.3	+7.0
Average	+3.0	-20.1	+5.0

Which claim do you think is best supported by the data? (*circle one*)

- a. Bianca's claim
- b. Jared's claim
- c. Anup's claim

Explain how the patterns in the data support the claim that you chose:

What additional evidence would you collect to help show that the claim you chose is the best claim?

4. A question about how Dolphins grow and function. Fat is mostly made of molecules such as stearic acid: $C_{18}H_{36}O_2$. Decide whether each of the following statements is true or false about what happens to the atoms in a dolphin's fat when he swims for a long distance and loses weight.

Some of the atoms in the dolphin's fat are:

- True False incorporated into CARBON DIOXIDE in the air.

True False converted into ENERGY that he uses when he swims.

True False BURNED UP AND DISAPPEAR.

True False converted into HEAT.

True False incorporated into WATER VAPOR in the air.

Explain your answers. What happens to the atoms in the fat of a dolphin that loses weight? (*be sure to include all of the T/F ideas in your answer*)

B. A question about how mealworms grow and function. When lots of mealworms are together in a small container, the container gets warm. How do you think food contributes to the mealworm's body heat? (*remember which process produces heat energy*)

B. A question about how salmon grow and function. When a salmon was one month old, it weighed 2 kg. After 1 year, the salmon has grown into an adult salmon, weighing 30 kg.

How does the salmon's digestive system (stomach and intestines) help it gain mass as it grows? (*describe the role of the digestive system in growth*)

5. How does the salmon's blood help it gain mass as it grows? (*describe the role of blood in biosynthesis*)

5. When a girl breathes, she breathes in air that has more oxygen, and she breathes out air that has more carbon dioxide. Where in her body is the carbon dioxide produced? (*Think about what process produces carbon dioxide and which cells do that process*)

a) Circle True or False.

True False Some of the carbon dioxide is produced in the girl's LUNGS.

True False Some of the carbon dioxide is produced in the girl's HANDS.

True False Some of the carbon dioxide is produced in the girl's BRAIN.

b) Explain how the carbon dioxide is produced in the girl's lungs, hands, and/or brain.
