



Marine Mammal Meals

Name: _____

Period: _____

Date: _____

Placing a Fish Order

Dolphin Research Center is currently home to sixteen Atlantic bottlenose dolphins and two California sea lions. The main focus at DRC is providing excellent care to the animals that call DRC home. Animal husbandry refers to the science and practice of breeding and caring for animals. This includes everything from meeting nutritional needs to providing medical care to maintaining habitats. Meeting all of these needs requires collaboration between the medical staff, animal training staff, and animal care staff at a facility.

At Dolphin Research Center, preparing marine mammal meals is no simple task. The food preparation takes place in a building called the Fish House. Every morning, trainers and interns get to work weighing fish to be placed in individual buckets for each of our dolphins and sea lions. Most of the eighteen animals receive three meals a day; this means staff and interns have the daunting task of preparing at least 54 buckets every day!

Herring and capelin are the two types of fish that are commonly used at Dolphin Research Center. In addition to these two, other kinds of fish are incorporated into the animals' diets on a rotating basis to provide variety. Some of the other types of fish used include smelt, silversides, sardines, and squid.

The Fish House Manager is responsible for overseeing the day-to-day functioning of the fish house, as well as for ordering the fish supply. For every new shipment that comes in, laboratory testing must be done to determine the health and caloric content of the fish. Diets must be adjusted according to the number of calories in each type of fish. The Fish House Manager must be highly proficient in mathematics in order to successfully carry out all of these job responsibilities.

Type of Fish	Pounds of Fish Used													
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
Herring (1)	55	58	64	60	59	62	61	64	58	63	61	64	58	63
Herring (2)	20	19	20	17	18	16	15	20	21	20	22	17	19	18
Smelt	63	60	61	59	57	57	58	59	61	60	62	59	58	60
Capelin	68	70	71	69	70	73	71	69	70	69	71	73	72	70
Sardines	23	25	22	20	21	24	22	25	22	23	23	22	24	25

NOTE: Herring (1) and Herring (2) are just two different types of herring. Herring (1) are usually larger than Herring (2).





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Type of Fish	Cost per Case	Pounds per Case
Herring (1)	\$13.20	44
Herring (2)	\$15.00	25
Smelt	\$22.50	25
Capelin	\$8.91	33
Sardines	\$32.50	50

1. The amount of fish used on a daily basis does not always stay the same. One large reason there is so much variation is that not all of the individual fish in each of the cases is suitable to feed to the dolphins. As staff members weigh out the proper amounts, they individually inspect each fish. They look to make sure the fish meet a certain set of criteria, including the presence of both eyes and no body tears. Any fish that do not meet the criteria cannot be used in the buckets. Another reason for the variation is that the diet of each animal may change slightly. Begin by calculating the average amount of fish used per day during the first two weeks of August. Round your answers to the nearest pound.

Type of Fish	Average Pounds Used per Day
Herring (1)	
Herring (2)	
Smelt	
Capelin	
Sardines	

2. You will be ordering a three month (90-day) supply of fish. Based on the figures you calculated in Question 1, determine how many pounds of each type of fish you will need to order.

Type of Fish	Total Pounds to be Ordered
Herring (1)	
Herring (2)	
Smelt	
Capelin	
Sardines	





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3. When ordering from the supplier, you cannot simply tell them how many pounds you need. They sell fish by the case, so calculate the number of cases of each type of fish you will need to order. You cannot order partial cases, so if your answer is not a whole number, round up to the next whole case.

Type of Fish	Number of Cases to be Ordered
Herring (1)	
Herring (2)	
Smelt	
Capelin	
Sardines	

4. Calculate how much money you will be spending on each type of fish, and the total cost of this order.

Type of Fish	Cost
Herring (1)	
Herring (2)	
Smelt	
Capelin	
Sardines	
TOTAL:	

5. The facility has budgeted \$50,000 for fish for the upcoming year. Based on the costs of the 3-month order you have just placed, do you think enough money has been budgeted for the year? Support your answer with specific numbers!

