

Right Whale Math and Science

Background

Right whales are some of the largest animals on the planet. Their dimensions and nutritional needs may be difficult to understand, especially for those who have never seen one up close. This activity provides comparisons to more familiar animals to gain perspective on how big they really are.

Activity Objective

Learn some basic biological facts about the North Atlantic right whale by comparing and contrasting them with other familiar organisms.

Materials

- Pencil or pen
- calculator

Activity

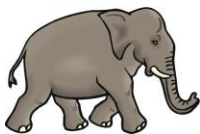
Perform the calculations listed for each question using the information provided.



Illustration by Richard Ellis.

Use this information as the basis for your calculations for questions 1-5:

North Atlantic right whales weigh an average of 100,000 pounds (lbs) or 45,454 kg. Calculate how their weight compares to some other mammals.



1. An African elephant weighs a maximum of 13,200 lbs (6000kg). One right whale weighs as much as how many elephants?

2. A polar bear weighs, 1,760 lbs (800 kg). One right whale weighs as much as how many polar bears?



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3. An NBA superstar weighs approximately 220 lbs (99.8 kg).
One right whale weighs as much as many NBA superstars?



4. A ring-tailed lemur weighs 6.6 lbs (3 kg).
One right whale weighs as much as how many ring-tailed lemurs?



5. A white-footed mouse weighs 0.81 ounces (23 g).
This = 0.05 lbs. One right whale weighs as much as how many white-footed mice?

Use this information as the basis for your calculations for questions 6-9:

North Atlantic right whales (NARW) consume approximately 395,000 calories daily. Calculate how the NARW's calorie consumption compares to some items you might enjoy eating.

6. How many pepperoni pizzas would a NARW eat if one pizza contains 1500 calories?



7. How many Big Macs would a NARW eat if one Big Mac contains 704 calories?

8. How many Milky Way bars would a NARW eat if one bar contains 130 calories?



9. How many apples would a NARW eat if each apple contains 44 calories?

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All cetaceans (whales, dolphins and porpoises) dive for their food. Below you will find some dive times for North Atlantic right whales. Calculate the average dive time for this species. You may want to convert the times to seconds to do the addition and division and then convert them back to minutes and seconds when you're finished.

- First dive: 8 minutes 15 seconds
- Second dive: 4 minutes 33 seconds
- Third dive: 5 minutes 05 seconds
- Fourth dive: 3 minutes 44 seconds
- Fifth dive: 6 minutes 25 seconds
- Sixth dive: 4 minutes 11 seconds
- Seventh dive: 7 minutes 14 seconds
- Eighth dive: 5 minutes 38 seconds

The average time of these dives is: minutes seconds

Wrap Up

Whales, dolphins and porpoises are hard to study. Most of their activity takes place below the water surface where it is difficult to see them and their behaviors. Plus, many are large and hard to measure. But, researchers and engineers have developed creative and clever tools to study these animals in their natural habitat. What is one of those research tools now being used? You may want to visit websites like: [Cetacean Research](#), [NOAA's Northeast Fisheries Science Center](#) or [Woods Hole Oceanographic Institution](#) to find out.

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