

Octopus Growth Science Bite



COMMON NAME: Giant Pacific Octopus

SCIENTIFIC NAME: *Enteroctopus dofleini*

TYPE: Invertebrates

DIET: Carnivore

AVERAGE LIFE SPAN IN THE WILD: 3 to 5 years

SIZE: 9.75 to 16 feet

WEIGHT: 22 to 110 pounds

SIZE RELATIVE TO A 6-FT MAN:



The size record is held by a specimen that was 30 feet across and weighed more than 600 pounds!

<https://www.nationalgeographic.com/animals/invertebrates/g/giant-pacific-octopus>

1. On June 29, 2018, Kanaloa weighed 1000 grams. At his last weight check (February 5, 2020), he weighed 7711 grams. Over these 19 months, how much has he grown per month?
2. On May 29, 2017, Pearl weighed 19 grams. 32 months later, on January 27, 2020, she weighed 20,139.5 grams. On average, how much has she grown per month?
3. Suggest some reasons that Pearl and Kanaloa seem to be growing at different rates:

Answer Key:

1. Kanaloa grew 6711 grams in 19 months; $7711 \text{ grams} - 1000 \text{ grams} = 6711$
That is 353.21 grams per month; $6711 \text{ divided by } 19 = 353.21$
Kanaloa is growing at about 5% per month; $353 \text{ grams (weight grown each month) divided by } 6711 \text{ (current weight)} = 0.052 = 5.2\%$
2. Pearl grew 20,120.5 grams in 32 months; $20,139.5 \text{ grams} - 19 \text{ grams} = 20,120.5 \text{ grams}$
That is 628.76 grams per month; $20,120.5 \text{ grams divided by } 32 = 628.76 \text{ grams/month}$
Over this time Pearl is growing at about 3% per month; $629 \text{ (weight change per month) divided by } 20,120 \text{ grams (current weight)} = 0.031 = \text{about } 3\%$
3. Octopus grow faster during certain times of the year, and at certain life stages. Other reasons that octopus grow at different rates include:
 - Availability of quality food
 - Stressors such as predation
 - Males are generally larger than females
 - In captivity, size of tank