

$$\frac{1}{10} = \frac{10}{100}$$



$$0.1 = 0.10$$

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World Record WILDLIFE

Adding and Subtracting Fractions



Elise Wallace

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World Records

Every four years, the Olympics are held. People cheer for the fastest and strongest athletes. They are awarded with gold medals for their hard work.

People also cheer for small achievements. People can set world records for blowing the biggest bubblegum bubble. They can build the largest house of cards. There's no task or trick too small. Anyone can become the world's greatest.

There are world-record holders in the animal kingdom, too. They deserve to be celebrated! The world is filled with many amazing animals. Some are incredibly big. Others are amazingly small. Some are very fast. Others are very slow. Many animals are unique enough to have a claim to fame. If there were an Animal Olympics, these creatures would surely be gold medalists!



Workers at LEGO Italy set a new record for tallest LEGO structure by building a tower that is 35.05 meters tall.



Three gymnasts accept medals at the 2016 Rio Summer Olympics.

Aliya Mustafina
of Russia

Simone Biles
of USA

Aly Raisman
of USA

From Miniature to Monstrous

These creatures stomp, scamper, swim, and soar. They range from the world's tiniest creatures to its biggest beasts. Each is a world-record holding animal.

Itty-Bitty Bat

Tiny enough to perch on a pinky finger, the bumblebee bat is the world's smallest bat species. It is a little longer than 1 inch (2.5 centimeters) and weighs about as much as a dime. But, don't be fooled by its size. The bumblebee bat is just as skilled as bigger bats!



Like other bat species, this tiny creature uses **echolocation**. It allows the bat to “see” using sound. When on the hunt, bats send out high-pitched signals. These sounds bounce off things around them. The faster a sound bounces back, the closer something is to the bat. This ability helps them find prey.

Bumblebee bats are **insectivores**, which means that they eat insects. Like other bats, bumblebee bats hunt at night. This species lives primarily in Thailand, in limestone caves.

Today, bumblebee bats are in danger. They are a vulnerable species. Some tourists have disturbed their **habitats**. Their caves must be protected for this species to continue to take flight.

LET'S EXPLORE MATH

A bumblebee bat weighs about $\frac{7}{100}$ of an ounce.

1. Does a bumblebee bat weigh more than or less than $\frac{1}{2}$ ounce? How do you know?
2. Imagine that scientists weigh 2 bumblebee bats. Which estimate best describes the total weight? Explain your reasoning.
 - A. less than $\frac{1}{2}$ ounce
 - B. greater than $\frac{1}{2}$ ounce, less than 1 ounce
 - C. greater than 1 ounce

A bumblebee bat emerges from its cave.

bumblebee bat

Micro Reptile

Micro reptiles are among the tiniest **reptiles** in the world. One species of chameleon is the smallest known micro reptile on the planet. It is about the same size as a bumblebee bat. The species is called *Brookesia micra*. It was discovered a few years ago on Madagascar, an African island.

Why is it so small? Scientists think that the reptile's size may be a result of its home. They believe that some **animals** shrink in size hundreds of times when they have small habitats, such as islands. This is called *island dwarfism*. In such conditions, scientists think some creatures slowly produce smaller offspring. Smaller animals need fewer resources, such as food and shelter.

The *Brookesia micra* was discovered along with three other chameleon species. Of the four species, the *Brookesia micra* is the smallest. That's why *micra* is part of its name. The word *micra* comes from the Greek word *mikros*, which means small!

Also known as **leaf chameleons**, these reptiles are active during the day. They sleep in trees at night. Like other **chameleons**, their eyes have special features. One eye can look to the left while the other can look up!



leaf chameleon



Male leaf chameleons (left) are smaller than females (right).

Madagascar

LET'S EXPLORE MATH

During the day, leaf chameleons live on the forest floor. At night, they move off the ground into trees.

Suppose a leaf chameleon is going to move 5 centimeters up a tree. So far, it has moved $\frac{4}{5}$ centimeter. How many more centimeters must it move? Use the area model to write an equation and find the solution.

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Math Talk

1. Name two fractions with different denominators whose sum is $\frac{2}{3}$. Name two different fractions with different denominators whose difference is $\frac{2}{3}$.
2. Jordan eats $\frac{1}{2}$ of a snack-size granola bar in the morning. Later that day, she eats $\frac{1}{2}$ of a full-size granola bar. Does Jordan eat 1 whole granola bar that day? Why or why not?
3. How can pictures help you show addition and subtraction with fractions?
4. How can benchmarks such as 0, $\frac{1}{2}$, or 1 help you decide whether answers to addition and subtraction problems with fractions are reasonable?
5. Malik does the following calculation: $\frac{3}{4} + \frac{1}{4} = \frac{4}{8}$. How can you prove to Malik that his answer is not reasonable?
6. How might officials use fractions to determine world records for animals?