

## FOOD-bor FUEL

APPLES PROVIDE UNIQUE


They are full of essential vitamins and a natural source of beneficial antioxidants

## HERE ARE SOME OF THE HEALTH BENEFITS OF INCLUDING <br> HERE ARE SOME OF THE HEALTH BENEFI APPLES IN YOUR DIET: <br> Otealthy HEART <br> <br> Cleart \& Strong

 <br> <br> Cleart \& Strong}Apples are rich in the compound quercetin, which has been shown to reduce inflammation while fighting against heart disease and hypertension.

The vitamin C found in apples may help strengthen hair, nails, and speed up skin cell production, while the beneficial B vitamins help fight acne and skin irritation.

## 3tappy GUT

The fiber found in apples helps us feel full and keeps things moving in our digestive tract-just be sure to leave the skin on as it contains half of the total fiber.



#### Abstract

Fruit orchards attract voles, mice, and other rodents but don't provide suitable homes for birds of prey. Farmers can welcome owls onto their properties by installing nesting boxes-simple wooden boxes that provide a safe place for owls to roost during the day. Let's celebrate these excellent hunters (and helpers!) with a creative snack.


## APPLE OWL

## Ingredients:

- Two apples
- One marshmallow
- Two chocolate chips
- Three mandarin orange slices
- One pretzel rod


## Adapted from <br> kitchenfunwithmy3sons.com

## Directions:

1. Wash your produce under running water.
2. Cut one apple in half. Leave one half whole for the body, and slice the other half thinly for the wings.
3. Take the second apple, and cut a rounded slice for the head. Cut triangular pieces for the ears.
4. Form the owl's body on a plate.
5. Cut the marshmallow in half. Arrange the halves on top of the owl's head to make eyes. Place chocolate chips in the middle of the eyes.
6. Use mandarin orange slices to create the beak and feet.
7. Place the pretzel rod under the feet to form the branch.

## The BIG Apple

An apple's an apple...right? You might be surprised to learn that in the United States there are roughly 2,500 different varieties grown. Each apple variety is unique in its color, taste, and shape. While some varieties are better for snacking and salads, others are a perfect match for pie, sauce, or cider. This apple exploration invites students to identify how different varieties measure up.

Materials: Apples for the entire class (use 2-3 different varieties), rulers, string, scissors, balances and gram weights, knife (for teacher use), student worksheet (page 3)

## Objectives:

Students will find the circumference, diameter, and mass of an apple. Advanced students will convert units within the same measurement system and find the approximate volume of the apple.
Standards:
CC Math: 2.MD.A.1, 2.MD.A.3, 3.MD.A.2, 5.MD.A.1,6.SP.B.5, 8.G.C. 9

## Procedure:

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1. Show students two different varieties of apples with noticeable differences in color, shape, and size. Record the similarities and differences of the apples within a Venn diagram.
2. Explain to students that apples come in thousands of different varieties, each with unique characteristics including color, shape, size, taste, texture, and preferred use.
3. Distribute worksheet and materials to the class. Have students record their apple variety at the top of the worksheet. Explain each measurement and have students make estimations. Demonstrate how to accurately find mass, and measure circumference and diameter.
4. Have students complete the student worksheet on page 3.
5. Invite students to report their measurements, by variety, on the board or flip chart. Find the average mass, circumference, and diameter for each variety. Ask students, "What general statements can you make about the varieties of apples we measured today?"
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## * Classroom |. The BTG Apple

## Mass

A measure of the amount of matter an object contains.
Materials: Apple, balance, gram weights

Estimation: $\qquad$ grams $(1$ jumbo paperclip $=$ approx. I gram $)$

I. Place your apple on the balance.
2. Add gram weights to the other side of the balance until the balance is level.
3. Count the number of gram weights used. This is the mass.

## Circumference

The distance around a sphere.
Materials: Apple, string, scissors, ruler

2. Cut your string where the two ends meet.
3. Stretch out your string and measure it with a ruler. This is the circumference.

## Diameter

The distance across a sphere.
Materials: Apple, knife, ruler

Estimation: $\qquad$ centimeters
$(\mid$ staple $=$ approx. $\mid \mathrm{cm}$ long $)$

I. Ask an adult to cut your apple in half.
2. Measure the distance across the middle of your apple.

This is the diameter.

5th/6th Grade
Challenge: Convert
each measurement into different units (ex:grams to kilograms).

7th/8th Grade Challenge:
Find the approximate volume of the apple. $V=4 / 3 \Pi r^{3}$


## DIG DEEPER

## These books, welosites, and other resources will help you and your students learn more about apples.



## The Biggest Apple Ever

 written by Steve Kroll and illustrated by Jeni BassettAs another year at Mouseville School begins, the students will be learning all about apples-starting with a contest to find the biggest one ever! When a pair of friends can't find the biggest apple, they must think creatively and cooperatively to impress their class.


## How Do Apples Grow?

 written by Betsy Maestro and illustrated by Giulio MaestroSuitable for a science lesson, this book highlights the apple life cycle, apple anatomy, and pollination. As they learn scientific facts, young readers will also gain an appreciation for the natural beauty of this popular fruit.

## The Apple Orchard Riddle

 written by Margaret McNamara and illustrated by G. Brian KarasMr. Tiffin and his class head out on a field trip to the apple orchard. On their trip they learn all about apples-including how they are harvested, how cider is
 made, and what the different varieties of apples are-all while trying to solve a mysterious riddle.


## learnaboutag.org

The California Foundation for Agriculture in the Classroom provides free resources to teachers. The resources highlight many of California's 400 agricultural commodities, including apples.

## calapple.org/classroom-material

The California Apple Commission website provides additional information about how apples are produced in the Golden State. The site has a page for educators which features apple facts, games and puzzles, coloring pages, and activity ideas.


## Resource: Apples, A Class Act! (Grades PreK-3, 4-6)

By U.S. Apple Association
These grade-specific newsletters provide a wealth of activity ideas, a full lesson plan, and abundant information about apples. Includes word searches, poetry ideas, science explorations, and much more!

## Unit: An Apple a Day (Grades K-8)

By Illinois Agriculture in the Classroom
This set of seven lessons incorporates apples into Math, English Language Arts, and Science. These simple lessons provide a basic introduction to apples for young students.

## Lesson Plan: A is for Apples (Grades K-2)

By Utah Agriculture in the Classroom
In this lesson, students will use their five senses to investigate apples, identify and model the parts of an apple, make applesauce, and learn


