

Pumpkins

Subjects: Maths, Science,
Language.

Grade: Year 6



Introduction

A pumpkin is a squash plant that is usually orange however pumpkins come in many different shapes, sizes, and colours. There are different varieties of pumpkins. Although most consider pumpkins as vegetables in cooking, pumpkins have seeds so they are fruit. All parts of a pumpkin: the (yellow) flower, the seeds, the pulp, the leaves and the stem are edible. Pumpkins grow all over the world except for the Antarctica and are sold as agricultural, commercial and ornamental products.

The Tasks

You are going to engage in a web quest inquiry to explore basic numerical facts about the produce of pumpkins and pumpkins in general. You will answer questions, predict outcomes and engage in two investigations involving this fruit. These tasks will require real pumpkins, a computer or a tablet, access to the internet, measuring tools, pencil and paper. This web quest can be done at home or at school.

The Process – Part 1

How much do you know about pumpkins?

1. Mention a fairy tale that features a pumpkin.
 2. How many varieties of pumpkins are there?
 3. In which season are pumpkins planted?
 4. In which month are pumpkins most available and popular?
 5. To which holiday are pumpkins related to and why?
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The Process – Part 2

Learning about Pumpkins

- <https://www.thedailymeal.com/cook/12-things-you-didn-t-know-about-pumpkins-0/slide-4> 12 things you didn't know about pumpkins
- <https://en.wikipedia.org/wiki/Pumpkin> Wikipedia
- <https://www.sciencekids.co.nz/sciencefacts/food/pumpkins.html> Science Kids – Pumpkin facts for Kids
- <https://www.guinnessworldrecords.com/search?term=%2A> Guinness World Records
- <https://www.liveeatlearn.com/pumpkin/> Different varieties, storage tips, and nutritional info for pumpkin!
- <https://www.growveg.co.uk/plants/us-and-canada/how-to-grow-pumpkins/> Pumpkin Growing Guide
- <https://kids.kiddle.co/Pumpkin> Kids Encyclopedia Facts
- <https://www.youtube.com/watch?v=I3cc2OeSfWw> YouTube – How does it grow? Pumpkin
- http://www.maltawildplants.com/CUCU/Cucurbita_pepo.php Malta Wild Plants Pumpkin
- <https://www.pumpkinlicious.com/pumpkin-anatomy.html> - Anatomy of a pumpkin

The Process – Part 3

Questions: Knowledge and Applying

1. When and where did the first recorded pumpkin appear?
2. What is the general weight of a pumpkin?
3. How many days does the pumpkin need to grow from seed to ripe fruit?
4. What is the average length of a pumpkin seed?

Draw a line to represent the general length of a pumpkin seed using a ruler.

5. How much space does a single plant need in a field.
Why is this?

6. Fill in this table.

Nutritional Value per 100 grams.	
Energy (kJ)	
Calories	
Carbohydrates (g)	
Fats (g)	
Protein (g)	

- i. What percentage of the pumpkin is water?
 - ii. If I eat 500 grams of pumpkin, approximately how many calories would I have consumed?
7. Round to the nearest 100 kg the weight of the heaviest pumpkin authenticated in Germany on the 9th October 2016.
 8. Find out the difference in kg and grams between the current champion pumpkin and that of Swiss farmer Beni Meier in 2014?

9. What is the maximum time for an old fashion pumpkin pie to bake in the oven and be ready for eating? Give your answer in hours and minutes?

The Process – Part 4

Problem Solving

<https://nrich.maths.org/1026>

The Process – Part 5

Problem Solving

When planting pumpkins, one needs about 90cm space each way.

I am planting 10 pumpkin seeds in my garden.

Plan and draw the best way to plant 10 pumpkin seeds.

Label the diagram.

Calculate the area and perimeter of the space I need.

The Process – Part 6

Explore

Will pumpkins float in water? If they do, do they float stem up, stem down, or stem sideways?

Predict, investigate and evaluate.

Extension

Explore and Investigate

To do this activity one needs at least 5 pumpkins of different sizes.

1. Listen or read this story, 'How many seeds in a Pumpkin?'
<https://www.youtube.com/watch?v=KuOBzoiTR-w&t=11s>
2. Measure and keep a note of all the measurements.
Make sure to measure accurately with the right tools and appropriate units for each measure.
 - Weight
 - circumference
 - number of creases (ribs)
 - number of seeds
3. Compare the measurements of the 5 different pumpkins and investigate.
4. Are the facts in this story correct?
5. Observe:
 - i. Are the seeds scattered randomly within a pumpkin or arranged in some sort of pattern?
 - ii. Do big pumpkins have larger seeds than small pumpkins?
 - iii. Is there anything (weight, number of seeds or circumference) in a pumpkin which is related with the number of creases on the outside and/or number of seeds on the inside?

Evaluation

<http://csef.usc.edu/History/2007/Projects/J1720.pdf>

<https://www.whatihavelearnedteaching.com/pumpkin-measurement/>

<https://www.giftofcuriosity.com/easy-fall-math-measuring-the-circumference-of-a-pumpkin/>

<https://www.youtube.com/watch?v=JmHQyTtdDsE&t=10s>

<https://www.youtube.com/watch?v=ccwFRZFsDbk>

<https://nrich.maths.org/1026/solution>

<https://wonderopolis.org/wonder/do-pumpkins-float-or-sink>

Exit Card

1. New things I learned
2. Questions I have
3. Muddiest point
4. Want to know more about
5. An opinion I want to share