Can you Cantaloupe?

Teacher Sarahbeth Belvado	**Topic & Title:** Melons	**Grade Level:** Kindergarten-2nd grade

AZ Science Content & Inquiry Standards / Next Generation Science Standards:

- K.RL.1 – With prompting and support, ask and answer questions about key details in a text.
- K.RL.10 – With prompting and support, actively engage in group reading activities with purpose and understanding.
- K.RI.1 – With prompting and support, ask and answer questions about key details in a text.
- K.RI.2 – With prompting and support, identify the main topic and retell key details of a text.
- K.MP.5- Use appropriate tools strategically.
- K.1.1.PO2 -Ask questions based on experiences with objects, organisms, and events in the environment.
- K.1.2.PO2- Demonstrate safe behavior and appropriate procedures (e.g., use of instruments, materials, organisms) in all science inquiry.
- K.1.2.PO2 - Participate in guided investigations in life, physical, and Earth and space sciences.
- K.1.4.PO2 - Communicate with other groups to describe the results of an investigation.
- K.2.1.PO1 - Give examples of how diverse people (e.g., children, parents, weather reporters, cooks, healthcare workers, gardeners) use science in daily life.

Objective:

Students will be able to construct a brace map labeling the parts of a cantaloupe.
Students will be able to ask and answer questions about key details in a text.
Students will be able to complete a 1 pager.

Evidence of Mastery:

Formative Student worksheet and informal questioning
Summative Students 1 pager.

Background Knowledge:

Characteristics of a fruit. (Fruit has seeds on the inside).

Egyptians wrote about cantaloupes as far back as 2400 B.C. In later times, the Romans described the cultivation of cantaloupes. Gradually their popularity moved west, reaching France in the 1490s, and continued to spread into central and northern Europe. Columbus brought seeds to the New World on his second voyage and reported their cultivation there upon his return. Since the eastern soils and climate of North America weren't well suited for cantaloupes, commercial production eventually moved into the western states. Today, most of the cantaloupes produced in the U.S. are grown in Arizona and California. (Source: California commodity fact sheet)

Cantaloupes are an excellent source of both vitamin A and vitamin C. A six-ounce serving, or roughly a quarter of a melon, provides 100 percent of the U.S. recommended daily allowance of each vitamin. Cantaloupes are also high in dietary fiber as well as folacin, a nutrient needed for growth and the development of hemoglobin. All of the nutrition in cantaloupes comes with minimal calories. There are 50 calories in a six-ounce serving of cantaloupe. Cantaloupes contain no fat or cholesterol. (Source: California commodity fact sheet)

Cantaloupe have 2 seasons: Spring and Fall. Arizona has 14 major melon growers growing for market. Growers produce 16,000 acres of cantaloupe; 3,500 acers of honeydew; and 2,900 acers of watermelon. Most of the melons produced are done so in Yuma, Pinal, and Maricopa counties. Arizona is the # 2 producer out of 9 states for cantaloupe just behind California. Arizona is the #2 producer out of 3 states for honeydew behind California. Arizona is the #7 producer out of 16 states for watermelon.

Misconceptions (Possible misleading thoughts students might have):

Cantaloupes are not a part of the melon family.

Process Skills (Skills are you introducing or reinforcing; ex. observation – reinforcing; prediction – introducing):
Observation, Predictions, Scientific testing, and Analysis

Management Technique:
General classroom management procedures: call backs, timers, questioning, ect.

Essential Question: What is a fruit and what does it need to grow?

Inquiry Questions (Testable in the here and now):
Will a cantaloupe sink or float and why?
Do all cantaloupe have the same amount of seeds? What are the parts of a cantaloupe?

Key vocabulary (List and define):

Fruit: the sweet and fleshy product of a tree or other plant that contains seed and can be eaten as food.

Farmer: a person who works on a farm to produce animal or plant based foods.

Materials:
Container of water (large enough to hold a melon- 1 per group)
Cantaloupe(1 per group)
Knife
Spoon (1 per group)
Plate or napkin (1 per student)
1 sheet of construction paper (1 per group)
Light brown/ /white/orange construction paper cut into 4th (1 piece of each color per student)
Scissors
Glue sticks
Crayons
The Antelope Who Loved Cantaloupe by Celeste Marie Halata

Engage
The Antelope Who Loved Cantaloupe; white board/markers

Teacher Will:

1) Read aloud The Antelope Who Loved Cantaloupe by Celeste Marie Halata.
2) As you read ask students questions about where they find/don't find cantaloupe and why the fruit would be or not be there.
3) After completing the story discuss where the animals found cantaloupe. Record on the whiteboard where they looked for/found the fruit. Draw their attention to what a plant needs to grow (light- sun or grow light, nutrients- soil or grow substrate, moisture- water). Have them determine what items are/are not in each location.

Student Will:

1) Students will answer questions throughout the story.

Explore
Cantaloupe (1 per group), container of water(1 per group)

Teacher Will:

1) Ask the students to think about farmers. What are some fruits that they grow?
2) **Pose inquiry question**: Will a cantaloupe sink or float? Why do you think that?
3) After students have made their hypothesis take a cantaloupe and place it in the container of water.

Student Will:

1) Students will discuss different types of fruit farmers grow.

2) Students will generate a hypothesis about whether a cantaloupe will sink of float.

<table>
<tr><td colspan="2">Explain
White board/markers or smart board</td></tr>
<tr><td>Teacher Will:

1) After all groups have shared their findings with at least 1 other group discuss as a class and create a classroom bar graph of the findings.

2) Discuss data: Why do you think the cantaloupe sank/floated?</td><td>Student Will:

1) Students will share their results with at least 1 other group.

2) Students will explain why they think the cantaloupe sank/floated.</td></tr>
<tr><td colspan="2">Elaborate
Cantaloupe, knife, plates/napkins, spoon</td></tr>
<tr><td>Teacher Will:

1) Hold up a cantaloupe and ask the following questions. See: What shape is the cantaloupe? What color is the outside?
Touch: How does the outside feel?
Smell: Does it have a smell?
Hear: Can you hear the seeds shake inside? Does it have juice moving inside?
2) Pose the Inquiry question: Do all cantaloupes have the same number of seeds? Break the students into groups. Precut the cantaloupes open or have a parent volunteer to aide students in cutting open the cantaloupe. Scoop the seeds out of the cantaloupe. Have students count out the seeds in groups of 10. Then count the seeds by ten’s.
3) After students have counted their seeds compare how many seeds each group had. Discuss their findings.
4) Whiles students are working cube the cantaloupe for taste test.
5) Once students are done counting put the seeds aside. Pass out one piece of cantaloupe to each student. Have them taste the cantaloupe and describe what they taste.</td><td>Student Will:
1) Students will describe a cantaloupe using their senses.

2) Students will work in groups to count how many seeds a cantaloupe have.</td></tr>
<tr><td colspan="2">Evaluate
Cantaloupe, construction paper, scissors, glue, crayons, brace map worksheet, whiteboard/markers or smart board</td></tr>
<tr><td>Teacher Will:
1) Hold up a cantaloupe that has been halved, have students examine it. Ask them to explain what they see. (tan outside, orange inside, webbing, ect.) (This can be the same cantaloupe used the day before)
2) Pass out the brace map and orange and brown construction paper pieces. Have students use the light brown paper and scissors to make a circle. Glue the circle to the brace map paper (to left of point). Label the circle Cantaloupe. Use white</td><td>Student Will:

1) Students will construct a brace map of the parts of a cantaloupe.</td></tr>
</table>

crayon to draw webbing on the circle. Have the students cut a crescent of brown paper and glue it on the brace map to the right of the bracket. Label it rind. Have the students cut a piece of orange in a crescent shape and glue under the rind. Label it flesh. Cut small teardrop pieces of white paper and glue it below the flesh. Label it seeds.	
Closure Blank paper, 1 pager example	
Teacher Will: 1) Draw a 1 pager to show what you have learned about cantaloupe. Show the students the attached example of a 1-pager if you have not comepleted these before. (A 1 pager has a title, vocabualry word and definition, key details they learned/pictures.)	**Student Will:** 1) Students will show what they have learned by completing a 1-pager about Cantaloupes.

Extension activities:

1) Research Cucurbit Yellow Stunting Disorder Virus. Have students design a plan to prevent how they can we prevent the spread of Cucurbit Yellow Stunting Disorder Virus.

2) Construct a seed catapult and launch seeds. Record how far they fly!

3) Discuss with students other members of the melon family. Create a Venn diagram comparing a cantaloupe to a watermelon or honeydew. (Discuss anatomy, how/where they grow, ect)

4) Watch Youtube video: https://www.youtube.com/watch?v=v8uLTKYiT_Y. Design and construct a new packaging for cantaloupe that is environmentally friendly and cost effective.