Grade Two	SCIENCE	1 – 40 minute lesson
Teacher:	**The Buoyancy of Carrots**	***CHEP Good Food Inc.*** ***The Big Crunch Resources***

Context: The Big Crunch is coming this October - the goals of the program are to engage students in discussions about healthy eating; to explore the journey of food from farm to table; to learn about local agriculture; and to encourage kids to connect with their food! This lesson is designed to allow teachers to build on the Big Crunch carrot theme in their classrooms while meeting SK curriculum outcomes. It uses carrots as a foundation to use experimentation as a method to explore the science of buoyancy.

Outcomes & Indicators:

Physical Science: Liquids and Solids

LS2.2

Investigate interactions between liquids and solids, and technologies based on those interactions. [CP, SI, TPS]

- Use a variety of sources (e.g., newspapers, Elders, anglers, books, videos, and Internet) to gather information about objects that sink and float (e.g., canoes, kayaks, barges, boats, buoys, and fishing lures).
- Demonstrate an understanding of sinking and floating by solving a related practical problem such as building an object that will float, carry a load, and be stable.

Materials Needed:

- a bag of large carrots
- a plastic container
- Cold water
- Spoons and vegetable peelers

Learning Activity:

1. Show the class a carrot. Pose a simple question to lead into your experiment, "Alright students, do you think this carrot will sink or float?"
2. Create a simple chart to track how many students think it will float and how many think it will sink. Ask questions to drive a bit of discussion: "What makes you think it will sink? What kind of objects/materials have we seen float?"
3. As a class, conduct the first test – drop a large piece of carrot into a plastic container full of water. Watch it sink. Consider timing how long the carrot takes to reach the bottom of the water.
4. Explain the science: Buoyancy is "the ability or tendency to float on water, air or another fluid." Human beings are buoyant, that's why we can back float in the pool! The carrot is denser, heavier, than the water, so it displaces the water (pushes it out of the way) and sinks down to the bottom. The carrot is NOT buoyant.
5. Pose a question: Is there any way we could make a carrot more buoyant? Could we make it float?
6. Give each student a chunk of carrot. Using the spoons and the peelers (or teeth!), hollow out the piece of carrot (see diagram) to create a small boat-like shape.
7. Once again, place the carrots in water. Notice that now they can float. Discuss as a class why this might be. The carrot is lighter now, and so the water is able to lift it up!

Extensions: Try carrying a small load (such as a marble) in your boats, does the new extra weight effect the carrots buoyancy? In small groups, have a competition to see whose boat can carry the most cargo.