CONNECTING YOUTH, FARMS & FOOD
Little Farmers Agriculture Adventure and Activities Guide
The Water Cycle

What Is The Water Cycle?
The water cycle is the journey that water makes in its life, from one place to the other, and from one state to the other. As the word ‘cycle’ suggests, there is no starting point. This means that we can begin at any point and follow its path until it gets to where we started again.

The water cycle is made up of 4 primary stages:
1. Evaporation & Transpiration
2. Condensation
3. Precipitation
4. Runoff & Infiltration

**Sun** - The sun is the source of all energy on earth and powers the water cycle.

**Water Vapor** - The part of the water cycle where water is suspended in the air or is steam and humidity.

**Clouds** - form when water vapor condenses but is still in the air.

**Rain** - is moisture from clouds that become to heavy and falls to the earth as a liquid.

**Erosion** - is caused by falling rain where soil is unprotected by vegetation. Soil particles are suspended in water run off.

**Lakes** - collect water from streams, rain run off, and ground water. It is evaporated by the sun starting the cycle all over again.

**Plants** - take water in through the roots and evaporate water into the atmosphere through its leaves by a process called Transpiration.
Where does your Cheese Burger come from?

Do you know where the things you eat, wear and build with start out?

Farms, fields and forests produce our agricultural products. Most of these products must be processed in some way before we can use them. Processing changes raw agricultural products into thousands of things we use every day. Think about a cheeseburger, for example. The parts of a cheeseburger come from many different raw agricultural products.

**WORD BANK**
- Milk
- Cucumbers
- Eggs
- Wheat
- Tomatoes
- Lettuce
- Onions
- Tomatoes
- Cattle

**Lets Build a Burger!** – From the words in the word bank, choose the name of the agricultural product that is the source of each part of the cheeseburger. Write it in space below.

- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
Fruits and Vegetables come in lots of different shapes and sizes. They even grow in very different ways.

**Tap Root or Root Vegetables:** are one big root that grows down in the ground and has smaller roots that come out of it. Some examples of root vegetables are potatoes, carrots, radishes, beets & turnips.

**Ground Sprouts:** grow up above the ground with strong roots holding them up. Some examples are leeks, broccoli, cauliflower, lettuce, cabbage, brussels sprouts & corn.

**Vines Plants:** grow long tubular structures that sprawl out and are flowering plants in which the fruit of vegetable then grows from the flower. Some examples of vine plants are grapes, pumpkins, kiwi & peas.

**Bushes:** woody multiple stemmed plants that are low growing. Examples of bush plants are tomatoes, peppers, eggplants and raspberries.

**Trees:** woody plant having one stem (trunk) and at least 3” in diameter with a crown of leaves at least 4 ½’ above the ground. There are only fruit trees. Examples of fruit that grow on trees are apple, pear, almonds and coconut.

**Vegetables:** are plant that is cultivated for food

**Fruits:** the part of a plant that has seeds and flesh. MOST fruits are sweet and can be eaten raw.

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**Did you know!** – Scientists think of fruit as a part of a plant that contains seeds. The fruit might not be sweet. In fact, it might not be edible at all. But it’s still a fruit. Which vegetables do you eat that are really fruit?

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**Matching!** – Now that you know how fruits and vegetables grow can you match the fruits and vegetable on left with the way they grow on right. Draw a line from the fruit or vegetable on the left to the tree, bush, vine or the soil for underground on the right!
Who's in the Hive?

There are 3 kinds of bees in a honeybees beehive.

Queen Bee:
- There is only one queen in each colony.
- She lives for 1 to 5 years.
- She lays 1,000-2,000 eggs EVERY DAY.
- She is the mom of every bee in the entire hive.
- She is easy to identify because she has a much longer abdomen.

Worker Bee:
- All worker bees are female.
- They do not lay eggs.
- Nearly all of the honey bees in the hive are worker bees.
- Worker bees build, clean and protect the honeycomb.
- The worker bee is the bee we see gathering nectar and pollen.

Drone Bee:
- Drones are male bees.
- The eyes of the drone are HUGE!
- Drone bees do not have stingers.
- The drone’s only job is to mate with the queen.
- After the drone has mated, the worker bees will not give him any food and he starves.

Who is Who?

Can you tell which bee is which in the following pictures?
Did You Know...
The average honeybee will only make 1/12 of a teaspoon of honey in its life time. Which is about the size of your pinkie fingernail.

Using the sun as navigation and information from the waggle dance, the worker bees will forage for pollen and nectar all day.

When the bee returns to the hive, the pollen is removed from the bee's legs by a worker bee and then packed in the comb cell using their heads.

Once the bee returns to the hive the nectar is sucked out from the honey stomach (honey sac) by other worker bees through their proboscises (tongue). The worker then “chews” the nectar, which adds enzymes from the bee. Honey is the nectar that bees have spit up and eaten over and over.

The Waggle Dance – A figure eight dance that lets other honey bees know that the flower source is farther away. In the middle of the figure eight is a waggle that indicates the time needed to reach the flower source. The angle of the waggle indicates the direction in which the flower source is located.

Can you do the Waggle Dance?

1 2 3 4

Can you find these words?
HONEY FLOWER HIVE SUN NECTAR BEE YELLOW

Dance like a bee & WAGGLE DANCE! Simply follow the 4 easy steps below!
What food products are made from soybeans?

RACOYNS
LTPASIC
KIN
DCEASNL
EENSCUNS

What machine is used to harvest soybeans from the field?

When are soybeans planted?

Maize Maze! Help the chicks find their ways through the Maize Maze and return to the chicken coop.

• Corn is called maize by most countries, this comes from the Spanish word ‘maiz’.
• An ear or cob of corn is actually part of the flower and an individual kernel is a seed.
• Corn will always have an even number of rows on each cob.
• As well as being eaten by the cob, corn is also processed and used as a major component in many food items like cereals, peanut butter, potato chips, soups, marshmallows, ice cream, baby food, cooking oil, margarine, mayonnaise, salad dressing, and chewing gum.
How Does Corn Grow?

The kernel is the seed. The seed is planted in the soil. The stalk begins to grow. The stalk is the stem. Leaves grow from the nodes.

Below are labeled pictures showing the process in which corn grows.

Did you know! – The number of kernels per ear can vary from 500 to about 1,200. A typical ear has about 800 kernels, according to corn experts. Imagine how many kernels are found in an acre of corn!
My Plate Planner

The plate method is a simple way to learn healthy portion sizes.

Just split the plate into 3 parts, the largest part for vegetables.

Note to adults planning meals for smaller children: Remember to use a smaller plate or serve smaller portions if you don't have different plate sizes.

Your hand can help you measure the right amount of food to eat.

- **Palm of Hand**: Amount of lean meat
- **A Fist**: Amount of rice, cooked pasta, or cereal
- **A Thumb**: Amount of cheese
- **Thumb Tip**: Amount of peanut butter

Plate size for children: 7 inch plate
Plate size for teens and adults: 9 inch plate

1/2 vegetables
1/4 Protein
1/4 starch

Amount of
Lean meat
Cheese
Peanut butter

7 inch plate (children)
9 inch plate (adult)
Fruit & Vegetables Crossword Puzzle

Across
4  The opposite of a sour potato
8  The outside of this melon looks like a web
12 Tomatoes, cucumbers and lettuce make a nice ____.
13 This vegetable looks like a mini tree
15 Dip the leaves in butter and enjoy the heart of an ____.

Down
1  This is a fuzzy stone fruit
2  This is a side dish at Thanksgiving
3  A palm tree grows these
5  One popular big squash at Halloween
6  This tropical fruit has a big seed in the middle.
7  This looks like an orange but is smaller
9  Monkeys love them
10 Dip these into Ranch dressing
11 Dried grapes are called ____.
14 This vegetable has ears (think of cob)
What names do we use for livestock?

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<thead>
<tr>
<th></th>
<th>Cattle</th>
<th>Pigs</th>
<th>Sheep</th>
<th>Goats</th>
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<tr>
<td><strong>Mother’s Name</strong></td>
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<tr>
<td><strong>Father’s Name</strong></td>
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<tr>
<td><strong>Newborn Name</strong></td>
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<tr>
<td><strong>Days Pregnant</strong></td>
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Fill the chart with the names you learned about each specie in the animal barn!