Plants and Animals
3rd Edition
Grade 1
Sample Notebook
Active 1.1

* Teacher demonstrates planting procedure
  Page 58-59 of manual

Then students plant own lawn, plant
What do you notice about alfalfa and ryegrass
seeds?

<table>
<thead>
<tr>
<th>Seed</th>
<th>Properties/Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>alfalfa</td>
<td>round, brown, small</td>
</tr>
<tr>
<td>ryegrass</td>
<td>pointed, gray, oval, bigger</td>
</tr>
<tr>
<td></td>
<td>long and thin</td>
</tr>
</tbody>
</table>

Students may only write 1 or 2 properties (differentiate naturally)

** Plant Control
lawn and label control
Day 1

* Teacher Tip: Plant extra in case somebody does not get a sprout.
I noticed that the alfalfa seed is round whereas / but the ryegrass seed is oval and pointy. I wonder if they will look different when they grow. (For students who are ready - add "because..." to the I wonder statement.)

- During shared writing you may add an In addition statement.
  Such as: In addition, the alfalfa seed is brown but the ryegrass seed is gray.
Plant Overtime Chart

What happens to ryegrass and alfalfa seeds in moist soil?

Day 1
Date 1/22
ryegrass seeds

Day 4
Date 1/23
alfalfa seeds
sprouts
soil

Prediction

I think plants will grow because my lawn grows.

- Sprouts coming up
- White and small
- 4 sprouts
- Need light
- Nutrients added to water

- Alfalfa has round leaves
- Ryegrass has long, thin leaves
- Getting taller
- White
- Stem
- Green leaves
- Ryegrass

Fold out sheet

Teacher Tip: Make a class chart with all observations.

Student numbers are not lined up! Look to write on their own 1 or 2 then share out as you add to class chart.
I wonder... I think...

1/23 I wonder what the plant will look like.

1/27 I wonder how tall it will get or I think the plants will keep getting taller. (Because...)

1/29 I wonder if the alfalfa can grow as tall as the rye grass.

Ask: What will happen?

Share Notebook
Entries
1.2 Active changes

What happens to the grass and alfalfa plants after we mow them?

cut

day 1 1/29  day 7 2/15

Teacher Tip:
Do not cut your control lawn. Students need to compare.
Day 1: We mowed our lawns. We used scissors to cut our grass and alfalfa. I think it will grow back because my mom mows the lawn a lot.

Day 7: I notice the grass is growing taller but the alfalfa is not. I think the alfalfa may grow but it takes longer. [or I wonder if the alfalfa will grow.]

Last Observation - Do a compare and contrast writing piece. See next page.
How are rye grass and alfalfa similar and different?

Do together as a class

Both are plants
- need water, light, nutrients, air to grow
- green leaves
- start as a seed

<table>
<thead>
<tr>
<th>ALFALFA</th>
<th>RYE GRASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>small round seed</td>
<td>long thin seed</td>
</tr>
<tr>
<td>has stem</td>
<td>no stem</td>
</tr>
<tr>
<td>more than one leaf</td>
<td>one leaf</td>
</tr>
<tr>
<td>dies if cut</td>
<td>will keep growing if cut</td>
</tr>
</tbody>
</table>
Alfalfa and ryegrass are similar because they both start as a seed. In addition, they both need water to grow. They are different because ryegrass will keep growing when it is cut whereas alfalfa dies. I think grass is better for lawns because it won't die when we mow it.
Growing and Mowing a Lawn
Cut the six pictures apart.
Put the pictures in order to show what happens when a lawn is planted and grows, is mowed, and then grows again.

Use as assessment
1.3 Active

* Teacher models wheat straw process
* each student prepares 2 straws

Then, observe seeds: discuss how to position in straw

Then: F.Q. How does a wheat seed grow?

Growing Wheat

How does a wheat seed grow?

This is the seed.

<table>
<thead>
<tr>
<th>Planting date</th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.3 Write

Date 2/2

First, we put paper towel in a straw. Next, we dropped the wheat seed in the straw.
Finally, we put the straw in a cup of water. I wonder if it will grow because there is no soil.

2/5

I notice the wheat seed is growing roots and a leaf. The root is growing down and the leaf is growing up. This reminds me of how plants grow in the ground (because the roots grow underground).
1.3 Active Bar Graph

Student glues construction paper strips used to measure leaf + roots into notebook.

Key
- green = leaf
- brown = root
I noticed that the roots are longer than the leaf. My evidence is that my brown paper strip is longer than my green strip. In addition, our class data shows that all of the roots are longer. I wonder if we cut the leaf of the wheat, if it would keep growing.
2.1 Active

How can we make a new plant from an old one?

Pothos

*Teacher tip: might do a fold out sheet divided into 3 sections for diagrams of change over time.*
2.1 Write
I predict that the pothos will grow taller.

2/19 My prediction was not accurate, because the pothos did not grow taller. I notice that there are black spots growing on the stem in the water. I wonder what will happen to them.

2/30 The old plant grew roots when we put the cutting in water.
2.2 Active

What grows from the nodes of a potato?

Tuber

Growth over time:

- **2/11/15**
  - Node = eye
  - Node is always green
  - Fuzzy

- **2/18/15**
  - Thick stem
  - Leaf

- **2/25**
  - Taller stem
  - 3 stems
  - Different heights
  - Roots are long.
2/12/15 First we cut the potato with the node on it. Then, we planted the potato sideways in soil. Last, we watered the potato. I wonder if a potato will grow from the plant.
Do a compare and contrast

<table>
<thead>
<tr>
<th>Potato</th>
<th>Alfalfa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roots</strong></td>
<td>grew in soil</td>
</tr>
<tr>
<td><strong>Stems</strong></td>
<td><em>leaves</em></td>
</tr>
<tr>
<td><strong>Thick Stem</strong></td>
<td><em>needs water, nutrients, light</em></td>
</tr>
<tr>
<td>Started from node of potato</td>
<td>started as seed</td>
</tr>
<tr>
<td>Leaves have tooth edge</td>
<td>Leaves round</td>
</tr>
<tr>
<td>Strong</td>
<td>Fragile</td>
</tr>
</tbody>
</table>
The potato and alfalfa both need water to grow. In addition, they both have stems.

They are different because the potato has a thick stem but the alfalfa has a thin stem.
3.1 Active

What do plants need to live and grow in a terrarium?

3/16/15

Survive

Habitat

Small garden of plants

Terrarium Map

Top view

KEY
3.1 Writing

We planted seeds in our terrarium. The seeds will need light, water, air, nutrients and space to grow. We give them nutrients by using plant food in the water. In addition, we put the terrarium near the window for light. This reminds me of the ryegrass because we put that next to the window too.
3.2 Active
What changes do you notice in your terrarium?

Terrarium Map
Top view

Key
W - wetter
D - drier
I - isopod
S - snail
WM - worm

3/24/15
I notice the worm is burrowing in the wet soil. Also, the wheat is getting taller. In addition, I notice the isopod climbs on the grass. I added some sticks for the animals because they may want to hide.
3.3 What structures or behaviors do plants or animals have that help them live in their environment?

Habitat - Where they live

Watch Video - How plants live in different places.

Teacher: Take notes after through class share

<table>
<thead>
<tr>
<th>Plant/Animal</th>
<th>Structure/Behavior</th>
<th>How does it help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cactus</td>
<td>Long roots close to surface</td>
<td>Get water from rain</td>
</tr>
<tr>
<td></td>
<td>No leaves</td>
<td>Won't lose water</td>
</tr>
<tr>
<td>Aloe</td>
<td>Stores water in leaves</td>
<td>Good for dry</td>
</tr>
</tbody>
</table>
Desert plants have long roots so they can get water from far away. In addition, they grow slowly so they don’t need lots of water.
3.4 Active

Squirrel Simulation

Make Class Chart while looking at data from game.
I think more gray squirrels were full in March because they hid their food in lots of places. This is helpful because if another squirrel steals his food, the squirrel know other hiding places.
How does a bulb grow?

- White
- Oval
- Smells

Day 1  4/27/16

- Stem
- Bulb

Day 3  4/30/16

- Small roots on bottom
- Bulb
- Roots

Day 7  5/4/15

- Greenish shoot
- Roots longer

Day 13  5/11/15

- Bud
- Shoot
- Bulb
- Stem
- Root

- Leaves
- Growing taller
- Leaves grow from middle
- Bulb
- Roots
I notice the roots grew from the bulb first. Next the bud grew from the top of the bulb. Then, the leaves grew from the middle of the bud. I wonder where the garlic bulbs grow.
What parts of the plant can grow new plants?

**Cutting Roots**

Cut the carrot in four parts.
Plant a piece from each part.

1.  
2.  
3.  
4.  

**Cutting Roots**

Cut the radish in three parts.
Plant a piece from each part.

1.  
2.  
3.  
4.2 Write

4/29/15 I predict...

5/13/15 My prediction was/was not accurate because...
4.2 Active

What do you notice about how a carrot grows?
4.3

What is the Same

My adopted plant

(choose one from class (e.g.) potato)
4.3 Write

Compare and/or Contrast