

## CLASSROOM ACTIVITIES

# STAGE ONE LESSON FOUR



### Learning Outcomes

- **MA1-DATA-01** gathers and organises data, displays data in lists, tables and picture graphs
- **ST1-1WS-S** observes, questions and collects data to communicate and compare ideas



### Resources and Preparation

#### Resources

##### Video (V)

- Video 8 - [The colour changing celery experiment](#)

##### Worksheets (WS) and Powerpoints (PTT)

- Worksheet 8.1 - Celery stems, cabbage leaves and flowers
- Worksheet 8.2 - Storage experiment
- Worksheet 8.3 - Growing seeds
- [Powerpoint 3 - Experiment](#)
- Teacher Information Document (TID)

##### Materials

- See TID for specific material lists per experiment
- Classroom poster

#### Preparation

##### Prior to lesson

- See TID for specific preparation instructions per experiment

## Fruit & vegie experiments

Students will pick, plan, research and implement an exciting experiment with fruit and/or vegetables. Through the experiment, students either learn about capillary action, the effect of packaging or how to grow seeds the quickest. Students can present their findings to the class, school or even the community.

### Introduction (10 mins)

Explain to the students that you will be doing a science experiment with fruit/vegetables. You can use PPT3 to explain to the students what an experiment is, and watch V8 to learn about one of the experiments in this lesson. The experiment in WS8.1 could first be done first with the whole class, to model an experiment for the students.

### Activity (60-120 mins, spread over several days)

1. As a class, choose an experiment to do in class (see TID and WS8.1-8.3)
2. Divide the class into groups of 3-4. Each group will test a different condition in the experiment
3. Together with the class, walk through the steps in the worksheet and guide them in doing their research and answering the questions.
4. Students continue to collect data and make notes over several days. Depending on the experiment chosen, the length of time will vary (see TID).
5. When finished, students will answer the questions about their findings and, if possible, complete the graph.
6. Discuss with the students what they think of doing 'research' and fill out the classroom poster for one of the experiments.
7. On the last day, the cabbage can be used to make a rainbow salad or funny cabbage faces can be created by decorating it with other fruits and vegetables such as blueberries and carrots.

### Conclusion (5 mins)

Ask the students if anyone can summarise their experiment for the rest of the class. What data did they collect and what were their findings? Was it what they expected? Can they explain WHY they found what they did? Other students can ask each group questions about their experiment.

### Assessment

- For:** Students understand how to do their experiment
- As:** Student successfully complete their experiment
- Of:** Students collected data, made predictions and conclusions about their experiment

### Differentiation

- Extend:** Students can create posters or PowerPoint slides about their experiment and present to the class/school/community (perfect to combine this with an organised School Science Fair).
- Simplify:** Follow lesson 4 for ES1.

### School/Home Link

Coloured cabbage leaves and celery stems could be used in salads/sandwiches in the canteen. Flowers could be used as decoration in class.

**Duration | 75-135 minutes**



# Option 1: Celery stems, cabbage leaves and flowers

Give your experiment a name

.....

**1** What do you want to find out from your experiment?

I want to test what happens when I put a ..... in coloured water.

**2** What will you measure? And what do you need?

I will measure:

1) ..... 2) ..... 3) .....

I will need:

.....  
.....

**3** What colour is your water?

.....

**4** What do you think will happen?

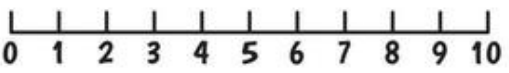
.....  
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**5** Day ..... measurements and observations

- 1. Draw a picture of your experiment:
- 2. How much water is in the cup?  
.....cm
- 3. How much time has the leaf/flower been in the coloured water?  
.....
- 4. Rate the colour of the leaf/flower

On a scale of 0 to 10, how much has your leaf or flower changed colour?  
0 is not at all and 10 is completely.

.....



Write here the colour in your cup.

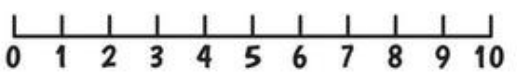


**6** Day ..... measurements and observations

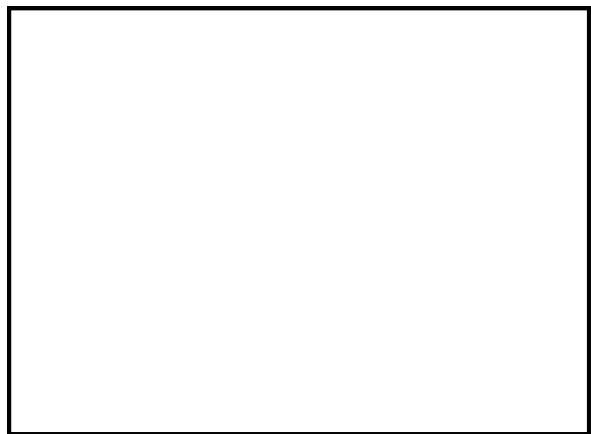
- 1. Draw a picture of your experiment:
- 2. How much water in in the cup?  
.....cm
- 3. How much time has the leaf/flower been in the coloured water?  
.....
- 4. Rate the colour of the leaf/flower

On a scale of 0 to 10, how much has your leaf or flower changed colour?  
0 is not at all and 10 is completely.

.....

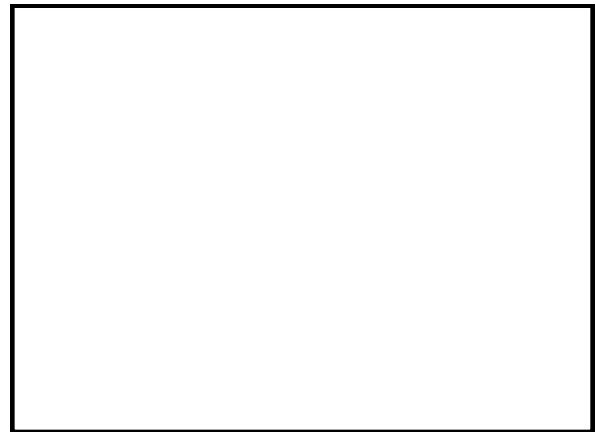


Write here the colour in your cup.



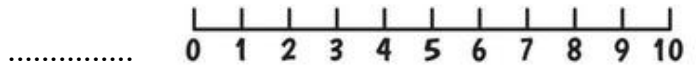
**7** Day ..... measurements and observations

- 1. Draw a picture of your experiment:
- 2. How much water is in the cup?  
.....cm
- 3. How much time has the leaf/flower been in the coloured water?  
.....



4. Rate the colour of the leaf/flower

On a scale of 0 to 10, how much has your leaf or flower changed colour?  
0 is not at all and 10 is completely.



Write here the colour in your cup.

**8** Findings

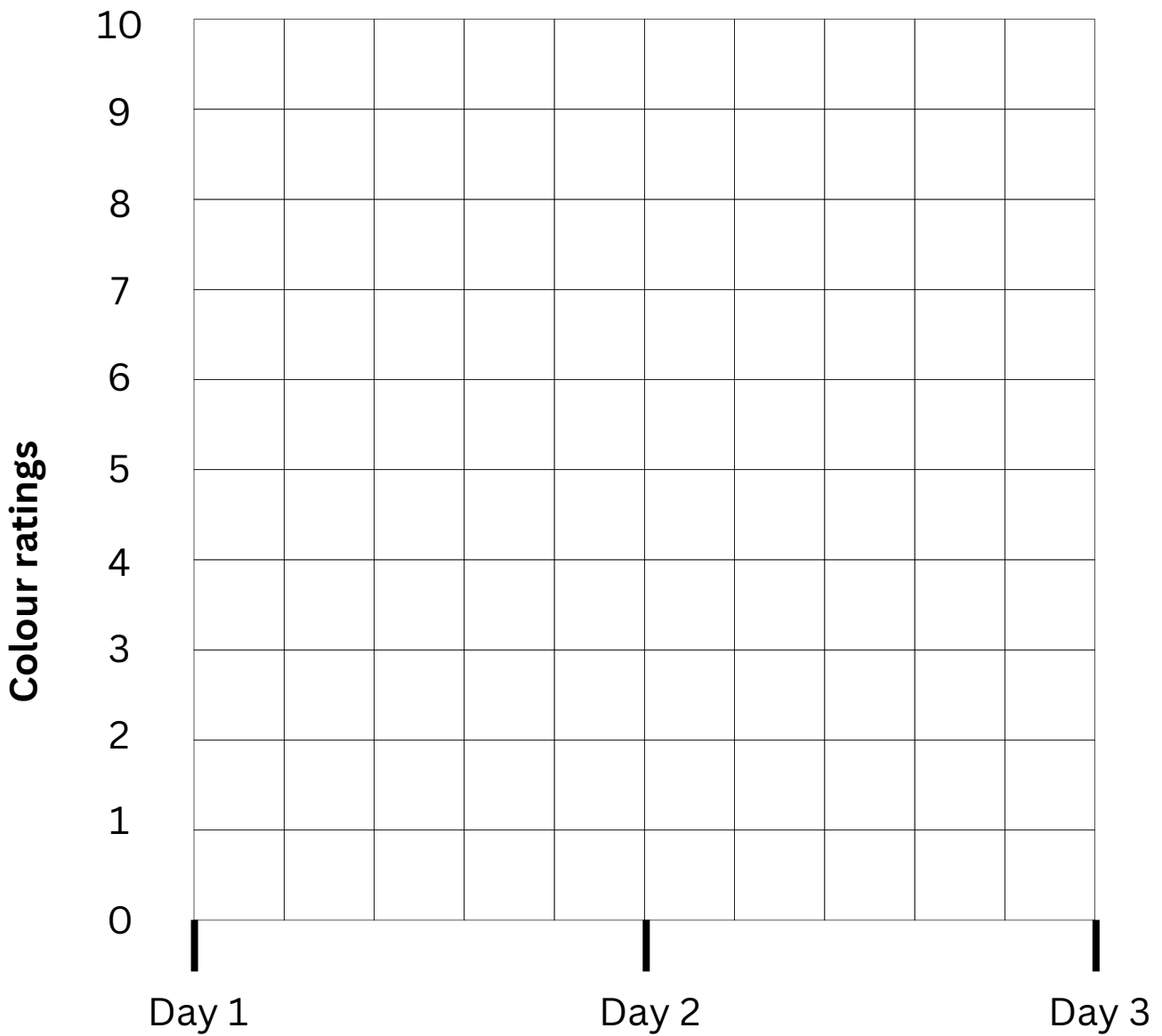
1. What happened to your flower or leaf?

.....  
.....

2. What happened to the leaves and flowers of the other groups?

.....  
.....

3. Can you put your data in a graph?



4. Take a look at the graphs of other groups that used another leaf or flower. Write down any differences you can see between your graph and theirs.

.....

.....

.....

5. Together with your teacher, compare all the graphs.  
Which one got the highest colour ratings?

.....

6. Which one changed colour the quickest?

.....

7. Check the data on each day and write down the centimeters of water in the cup for each day:

DAY 1: ..... cm

DAY 2: ..... cm

DAY 3: ..... cm

Did the water level go down, up or stay the same? Why do you think that happened?

.....  
.....  
.....

## Option 2: Storage experiment

*Give your experiment a name*

.....

**1** What do you want to find out from your experiment?

*I want to test what happens when I store  
a fruit or vegetable in a .....*

**2** What will you measure? And what do you need?

*I will measure:*

1) ..... 2) ..... 3) .....

*I will need:*

.....  
.....

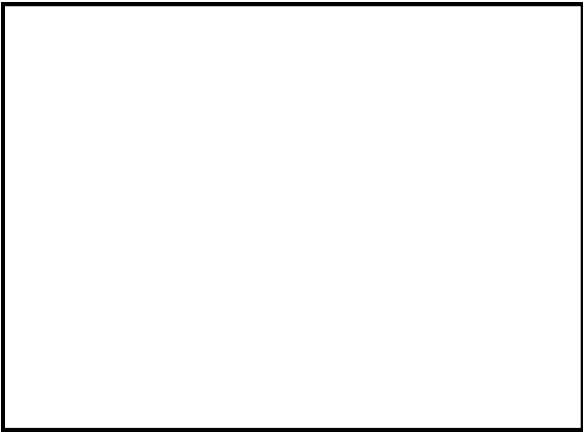
**3** What fruit or vegetable are you using?

.....

**4** What do you think will happen?

.....  
.....  
.....  
.....

**5** Day ..... measurements and observations



- 1. Draw a picture of your experiment:
- 2. How much time has the fruit/vegetable been stored?  
.....

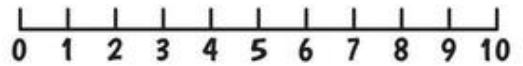
3. Describe what you see (any changes from the last measurement?):

.....

.....

.....

4. Rate the state of the fruit/vegetable .....



On a scale of 0 to 10, how much has your fruit/vegetable rotted?  
0 is not at all and 10 is completely.

Write here what you are rating

5. Write any other measurements or observations

.....

**6** Day ..... measurements and observations



- 1. Draw a picture of your experiment:
- 2. How much time has the fruit/vegetable been stored?  
.....

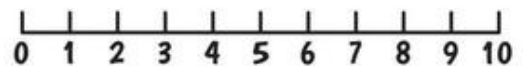
3. Describe what you see (any changes from the last measurement?):

.....

.....

.....

4. Rate the state of the fruit/vegetable .....



On a scale of 0 to 10, how much has your fruit/vegetable rotted?  
0 is not at all and 10 is completely.

Write here what you are rating

5. Write any other measurements or observations

.....



**8**

**Findings**

1. What happened to your fruit/vegetable?

.....

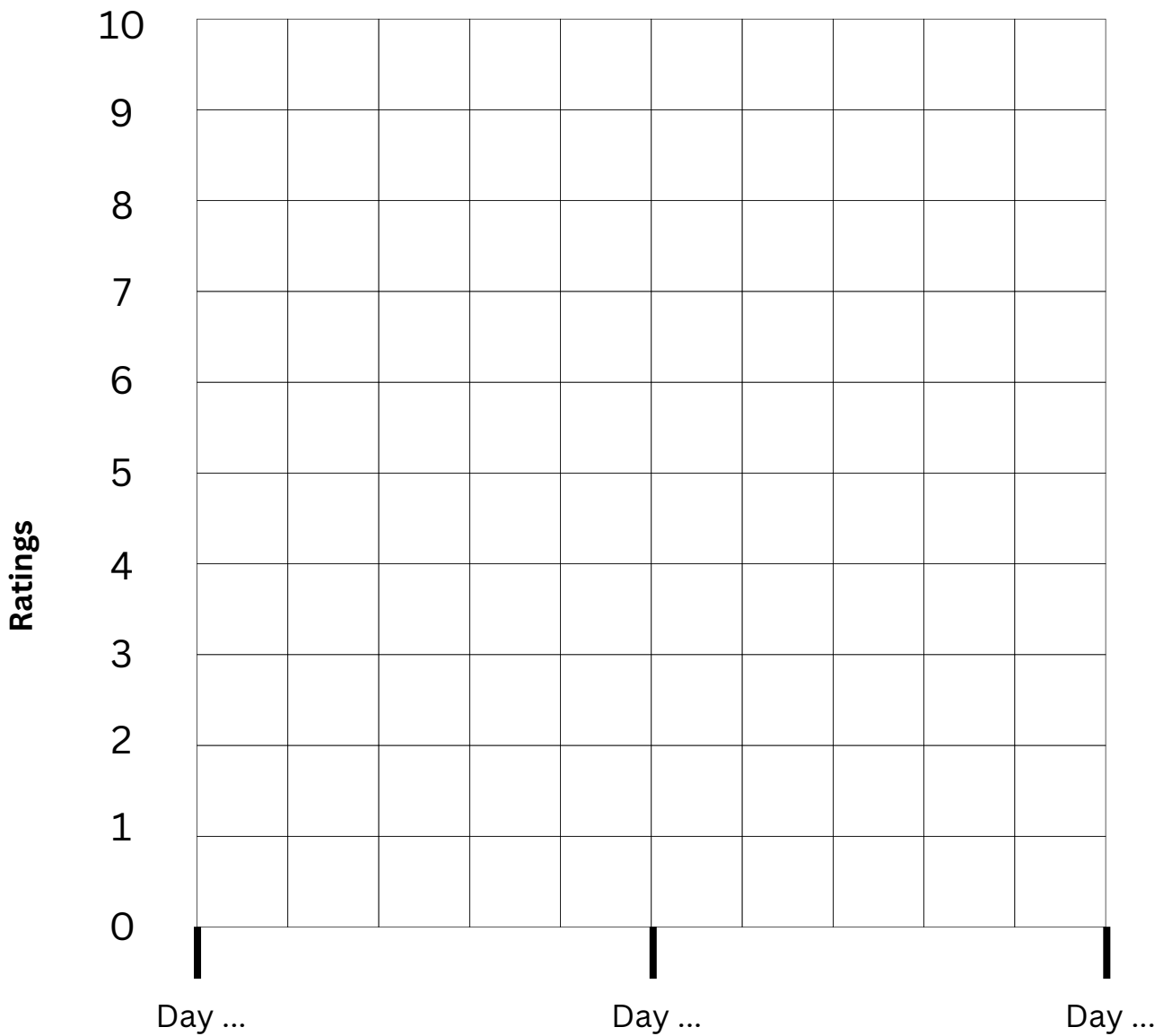
.....

2. What happened to the fruit/vegetable of other groups?

.....

.....

3. Can you put your data in a graph?



4. Compare your graph to those of groups with another storage method. Write down any differences you see.

.....  
.....  
.....

5. Together with your teacher, compare all the graphs. Which one got the highest ratings?

.....

6. Which one rotted/changed the quickest?

.....

7. What storage method was the best to stop the fruit/vegetable rotting?

.....

What do you think that means? How would you store this fruit or vegetable?

.....  
.....  
.....

### Option 3: Growing seeds

Give your experiment a name

.....

**1** What do you want to find out from your experiment?

*I want to test what happens when I ..... to my plant*

**2** What will you measure? And what do you need?

*I will measure:*

1) ..... 2) ..... 3) .....

*I will need:*

.....

.....

**3** What fruit/vegetable are you growing?

.....

**4** What do you think will happen?

.....

.....

.....

.....

5

**Day ..... measurements and observations**

1. Draw a picture of your experiment:

2. How tall is your seedling?

.....cm

3. How much time has passed since planting the seed?

.....

4. Note down any other observations:

.....

.....

5. Write what you will do to the plant today and for how long:

.....

.....



6

**Day ..... measurements and observations**

1. Draw a picture of your experiment:

2. How tall is your seedling?

.....cm

3. How much time has passed since planting the seed?

.....

4. Note down any other observations:

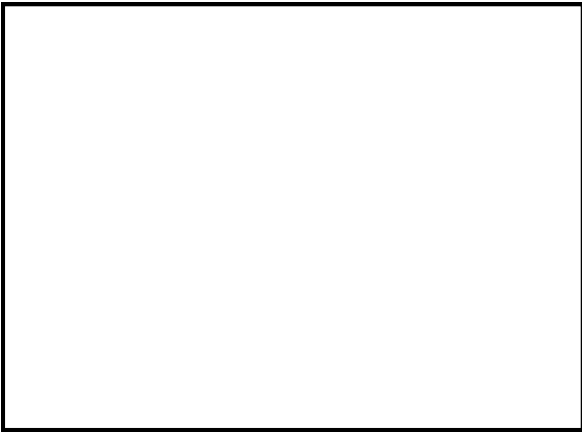
.....

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5. Write what you will do to the plant today and for how long:

.....

.....





**Findings**

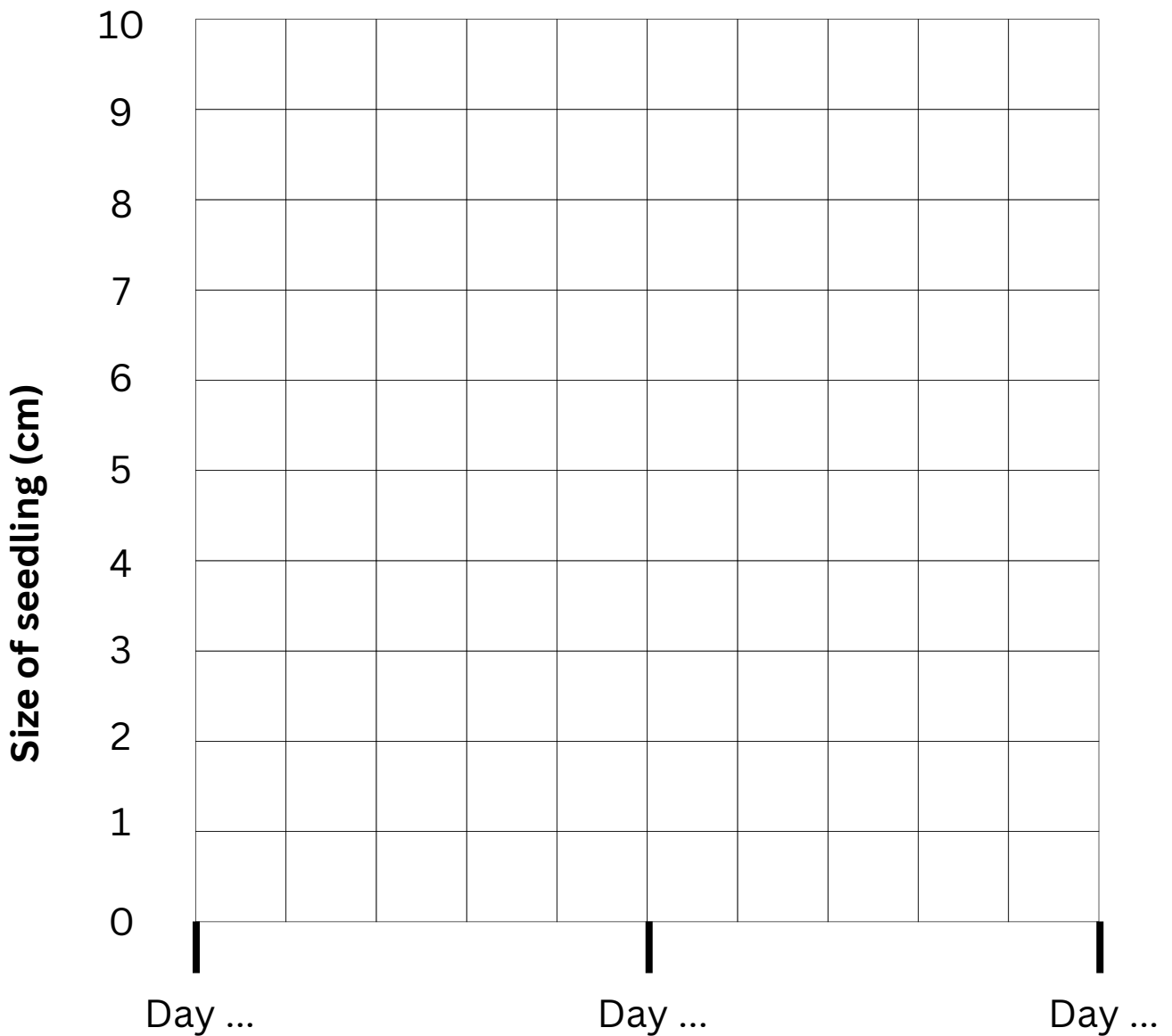
1. *What happened to your seed?*

.....  
.....

2. *What happened to seeds of the other groups?*

.....  
.....

3. *Can you put your data in a graph?*



4. Compare your graph to those of other groups. What differences can you see?

.....  
.....  
.....

5. Together with your teacher, compare all the graphs.  
What plant got the tallest?

.....

6. Which one got the tallest the quickest?

.....

7. What was done to the plant that grew the tallest?

.....

What do you think that means? How would you grow your fruit/vegetable plants?

.....  
.....  
.....