



Lesson Plan: How Do Plants Grow?

Grade Level: 3

Subject: Life Science

Duration: 45–60 min

NGSS 3-LS1-1: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

Learning Objectives

By the end of this lesson, students will be able to:

- **Identify** the essential needs of plants for growth: water, air, nutrients, sunlight, and space
- **Describe** the stages of a flowering plant's life cycle from seed to adult
- **Explain** the processes of germination and photosynthesis



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- Activity Lesson: Plant Life Cycle (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-3-how-do-plants-grow-4.pdf>)
- Worksheet: Plant Needs & Diagrams (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-how-do-plants-grow-3.pdf>)
- Assessment Quiz (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-how-do-plants-grow-0.pdf>)
- Vocabulary Set 1 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-how-do-plants-grow-1.pdf>)



- Vocabulary Set 2 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-how-do-plants-grow-2.pdf>)

Lesson Procedure

Step 1: Introduction (5 minutes)

- Engage students by asking: "What do you think a tiny seed needs to become a giant tree?"
- Review 'What a Plant Needs to Grow' using the Study Guide. (<https://newpathworksheets.com/api/guide/study-guide-science-grade-3-how-do-plants-grow.pdf>)

Step 2: Direct Instruction (15 minutes)

- Discuss the process of photosynthesis and how plants make their own food using sunlight.
- ~~Walk through the stages of a plant life cycle: seed, germination, seedling, adult plant, and~~



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[\(https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-how-do-plants-grow-2.pdf\)](https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-how-do-plants-grow-2.pdf)

Step 5: Assessment (10 minutes)

- Administer the lesson quiz to evaluate understanding of plant needs and life cycle stages. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-how-do-plants-grow-0.pdf>)
- Review answers as a class to correct any misconceptions.



Differentiation Strategies

For advanced learners:

- Research and compare the life cycles of flowering plants versus seedless plants (like ferns).

For learners needing support:

- Provide a word bank and the labeled diagrams from the Study Guide to assist with worksheet completion.

Extension Activities

- Plant bean seeds in the classroom and observe germination over one week, recording changes in a journal.
- Create a poster illustrating the process of photosynthesis.



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- Worksheet: Plant Needs & Diagrams
[\(https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-how-do-plants-grow-3.pdf\)](https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-how-do-plants-grow-3.pdf)
- Vocabulary Set 1 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-how-do-plants-grow-1.pdf>)
- Vocabulary Set 2 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-how-do-plants-grow-2.pdf>)

HOW DO PLANTS GROW?

What a Plant Needs to Grow

Plants need many essential things in order to grow, such as: water, air, nutrients, sunlight, and warm temperature. Plants need their space too! If a plant grows too close to other plants, it may not grow healthy and strong, because the plants may compete over the available water, nutrients, and space in the soil for their roots to grow.



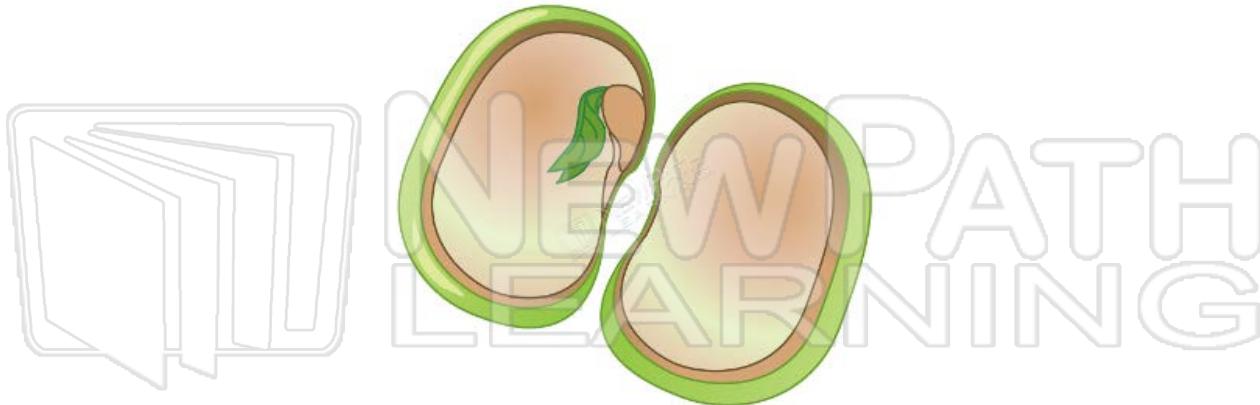
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Too much of a good thing, they can die. For instance, if a plant gets too much water, it can die.

In the beginning...

Most plants begin as a seed. A seed is a tiny plant, an embryo, in a little package.



A seed has a seed coat which protects the seed for harmful things,



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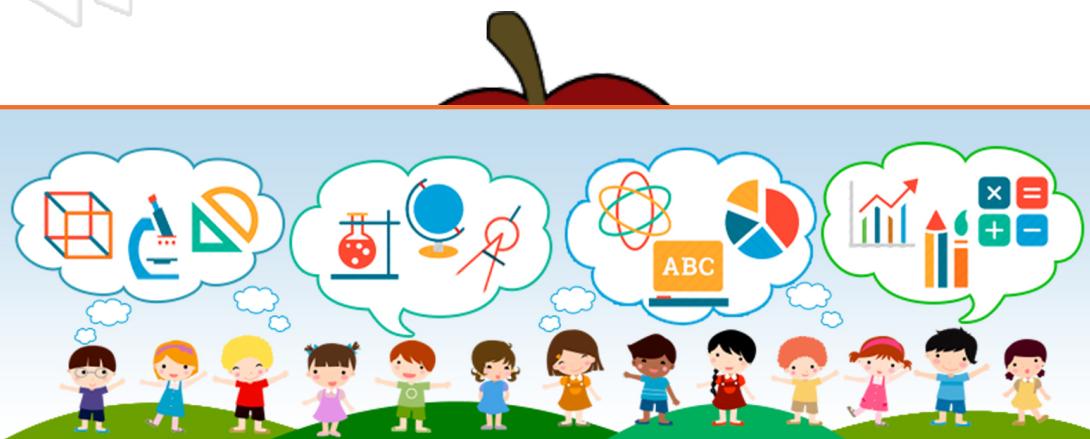
Lesson Checkpoint:
What is a cotyledon?

The seeds of a plant contain everything it needs to form the leaves, the stem, and the roots of a plant. Seeds also contain a food supply which is used to help the new plant grow and develop.

A seed stays inactive and doesn't start growing until the conditions surrounding it are just right for it to start growing. Seeds get to other places by the wind, water, animals, and even people.

Seeds are also found in the **pod** of a plant. A pod is a fruit that when ripe is dry and opens to release its seeds. Some pods contain few seeds while others contain many seeds.

Seeds can be found in the fruit of a plant or tree too.

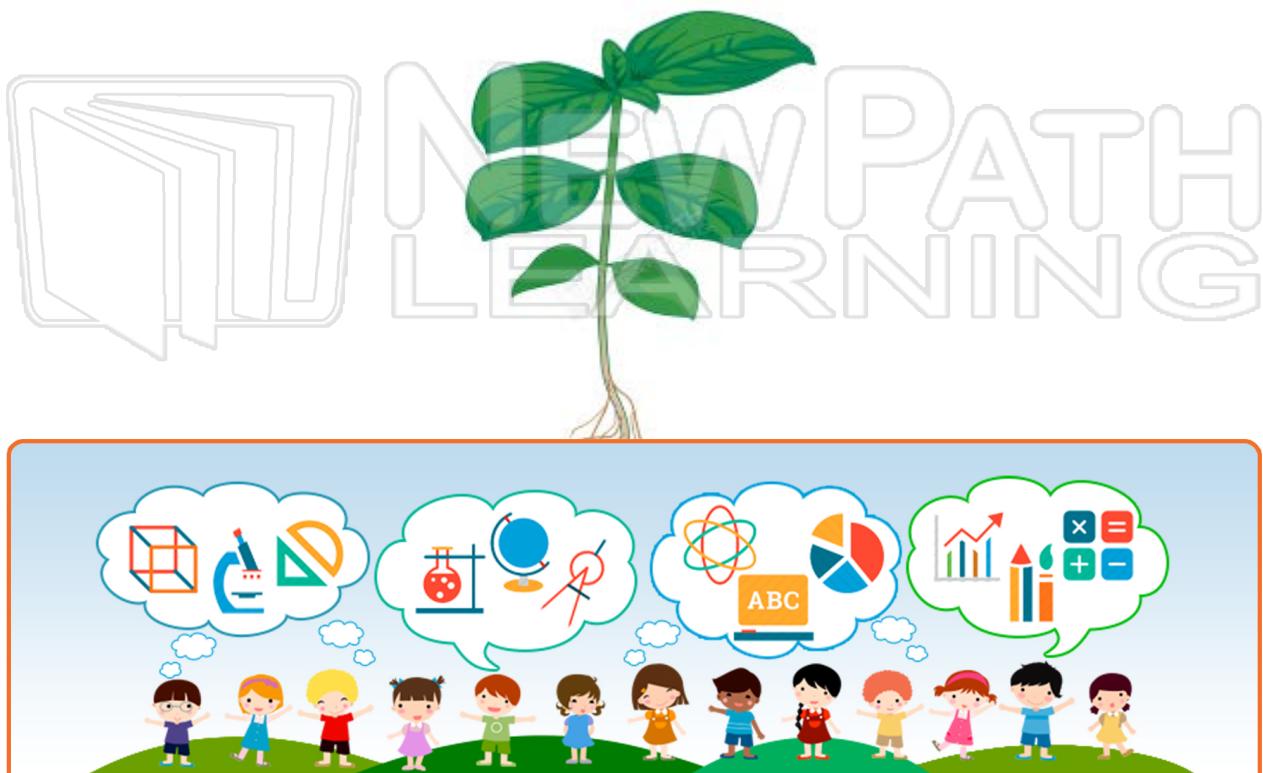


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A **seedling** is a young plant that is in its early stages of growth.



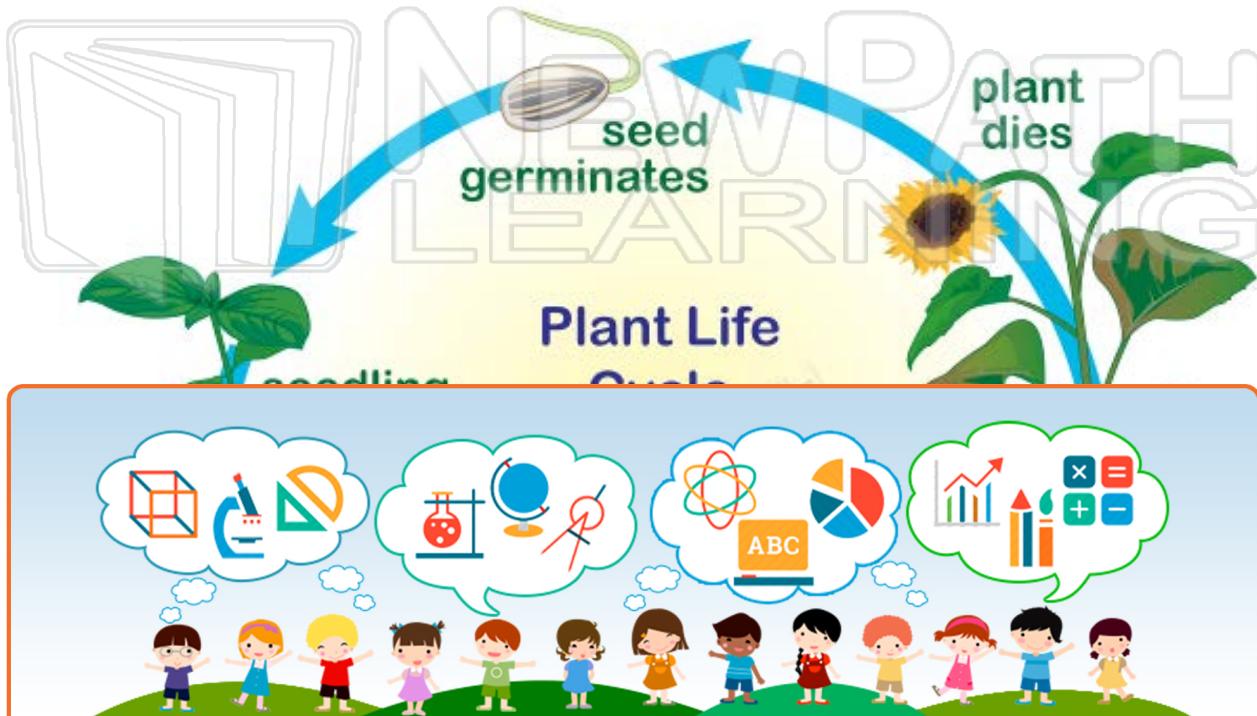
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Plants Have Different Life Cycles

A flowering plant's life cycle describes how long a plant takes to grow, flower, set seed, and die.



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Annual plants grow, flower, produce seeds, and die **all in the same year** whereas a perennial plant lives for three or more years.

NEW PATH
LEARNING

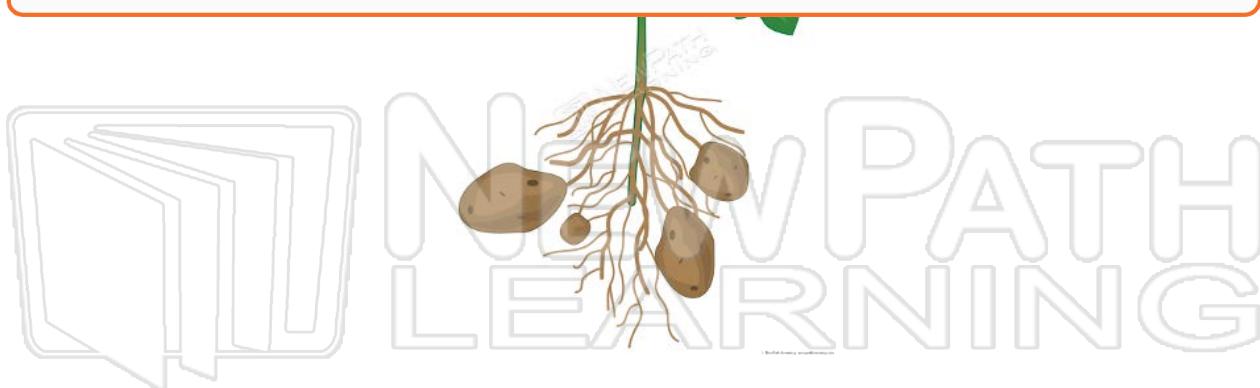
Seedless Plants

Plants that do not have flowers, such as ferns for example, do not make seeds. They produce spores instead.

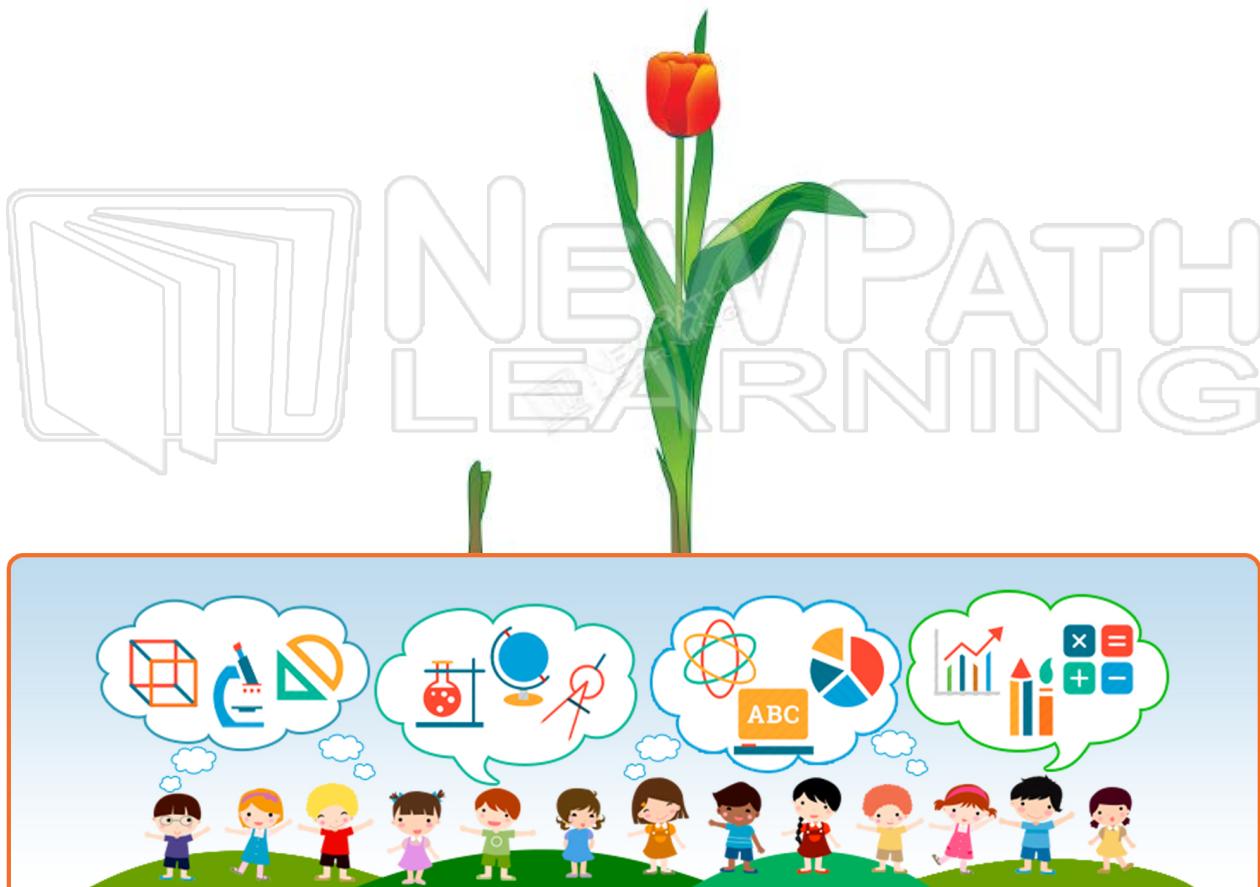


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A **bulb** is a special underground stem that is a plant in a small package that contains its own food supply needed for growth.



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How Do Plants Grow?

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Name _____ Class _____ Date _____

What a Plant Needs to Grow

Plants need many **essential things** in order to grow: **water, air, nutrients, sunlight** and **warm temperatures**. Plants need their **space** too!

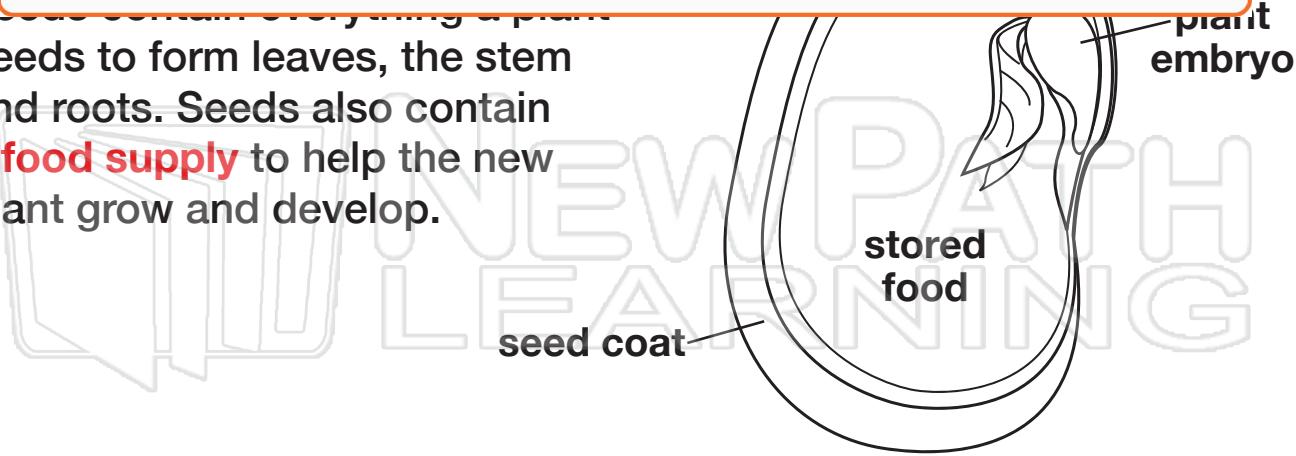


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So, what does a plant
needs to form leaves, the stem
and roots. Seeds also contain
a **food supply** to help the new
plant grow and develop.





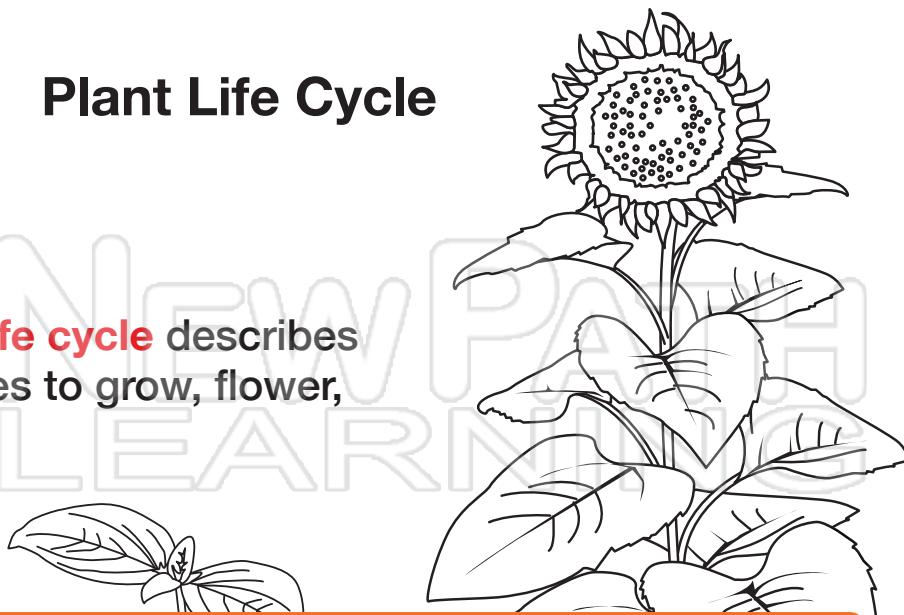
How Do Plants Grow?

Sci
C

Name _____ Class _____ Date _____

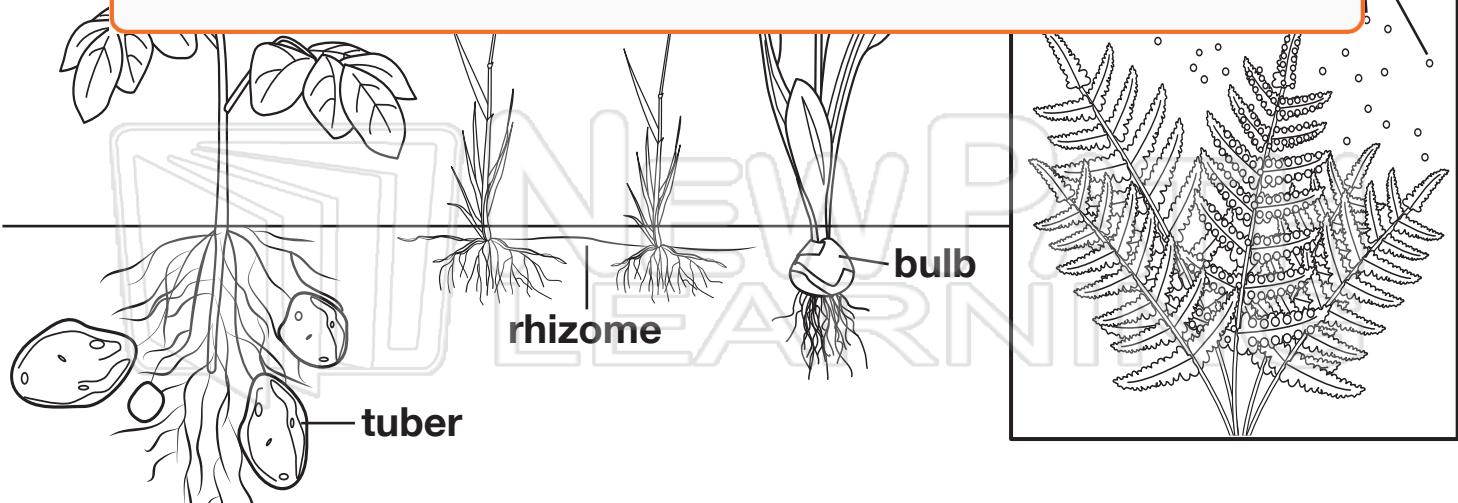
Plant Life Cycle

A **flowering plant's life cycle** describes how long a plant takes to grow, flower, set seed and die.



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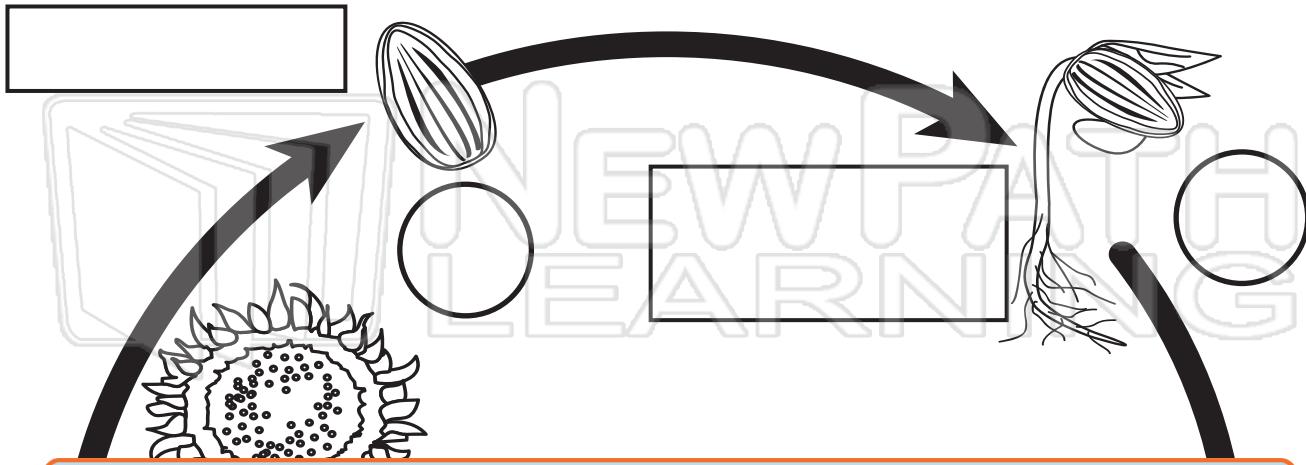


How Do Plants Grow?

Sci
C

Name _____ Class _____ Date _____

Label the **plant life cycle**. Number the steps.



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How Do Plants Grow?

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Name _____ Class _____ Date _____

Circle things plants need to grow.



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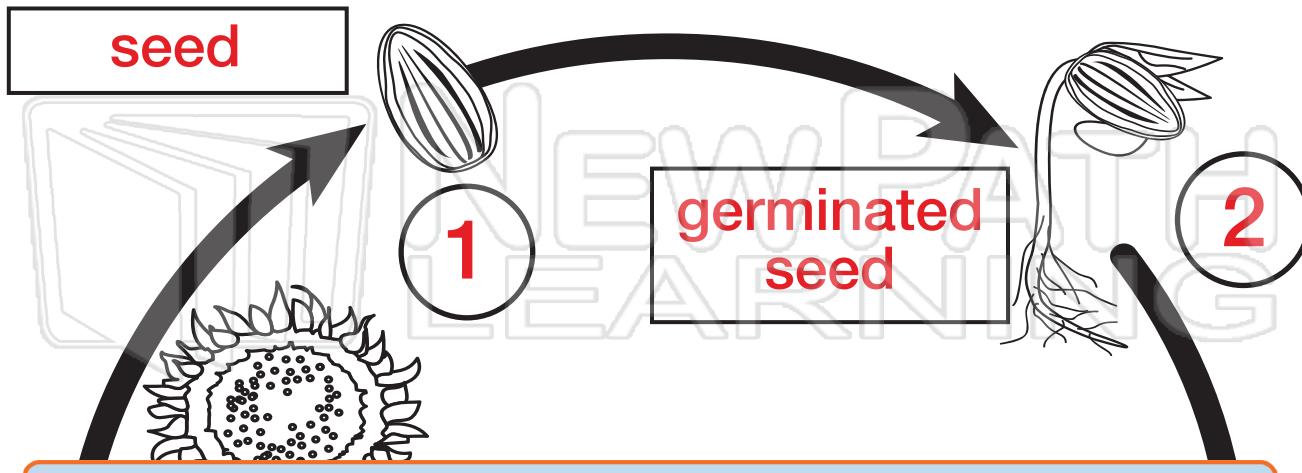


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Answer Key

Label the **plant life cycle**. Number the steps.



A group of ten diverse children are standing on a green grassy hill. Above them are four thought bubbles containing icons representing different subjects: a cube and a triangle for math, laboratory glassware for science, a atom model and a pie chart for science, and letters ABC and a pencil for English. The word 'PREVIEW' is centered below the children in large, bold, blue and orange letters.

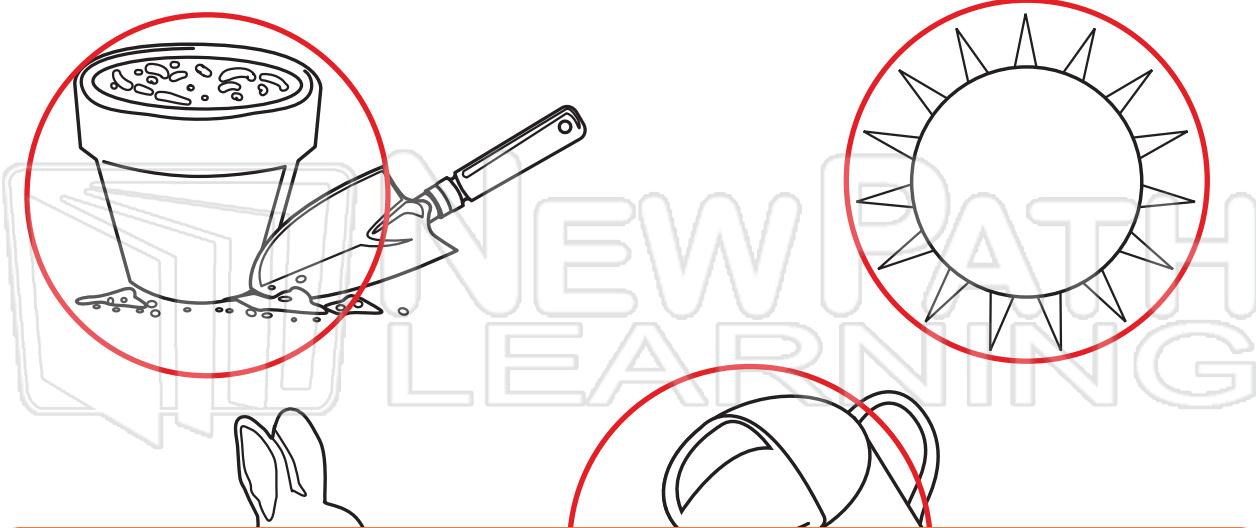
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Answer Key

Circle things plants need to grow.



A central illustration featuring a group of diverse children standing on a grassy hill. Above them are four thought bubbles containing various educational icons: a cube, a microscope, a triangle, a balance scale, a atom model, a pie chart, the letters 'ABC', and a bar graph.

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How do Plants Grow?

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C

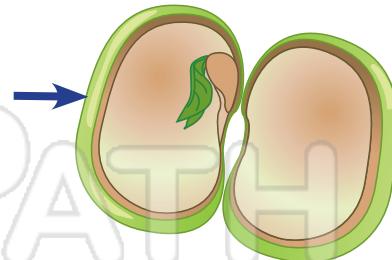
Name _____ Class _____ Date _____

1 What do plants need in order to **grow**?

Name at least **3 things** plants
need to grow.



6 What **part of the seed** is the arrow
pointing to in the diagram?



7 The **seed coat** **protects** the young plant inside the seed from the conditions of the environment until it is ready to grow.

2 If a plant gets **too much** of something it needs to grow, such as water, it can **die**. Circle the correct answer.



3 Name _____



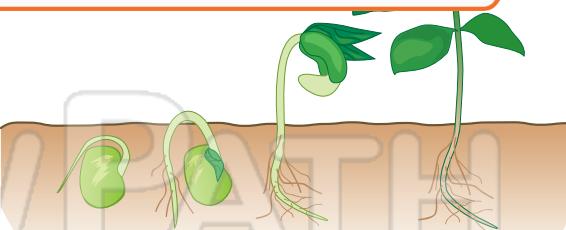
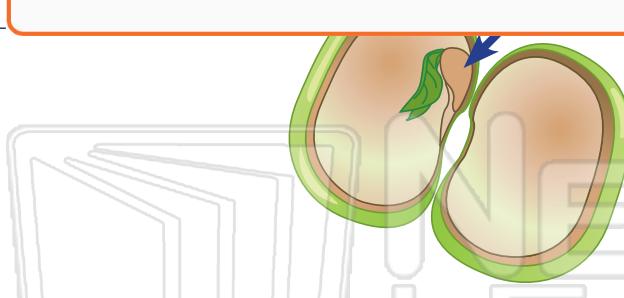
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4 A _____

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10 What is the name for the process of a plant as it **grows, flowers, sets seed, and dies**?

5 Seeds contain _____ which
helps the new plant begin to grow. It is
stored in the **cotyledon**.





How do Plants Grow? - Answer Key

Sci
C

Name _____ Class _____ Date _____

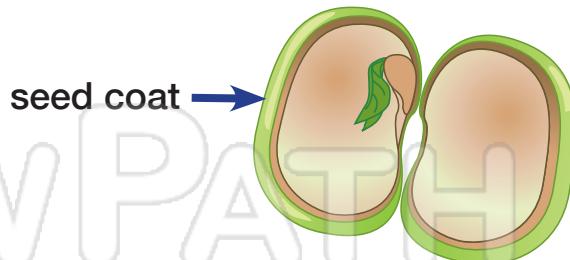
1 What do plants need in order to grow?

Name at least 3 things plants need to grow.

water,
sunshine,
nutrients,
soil, air



6 What part of the seed is the arrow pointing to in the diagram?



7 The seed coat protects the young plant inside the seed from the conditions of the environment until it is ready to grow.

2 If a plant gets **too much** of something it needs to grow, such as water, it can **die**.

Circle the correct answer.

3 M



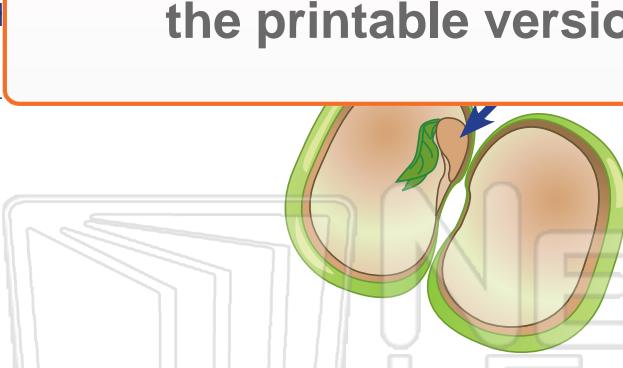
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4 A

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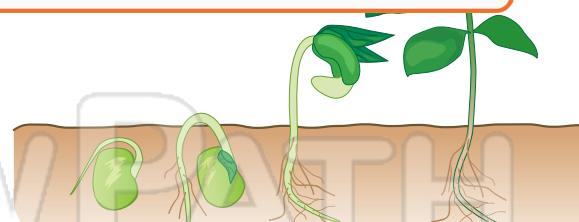
5

Seeds contain food which helps the new plant begin to grow. It is stored in the **cotyledon**.



10 What is the name for the process of a plant as it **grows, flowers, sets seed, and dies**?

life cycle





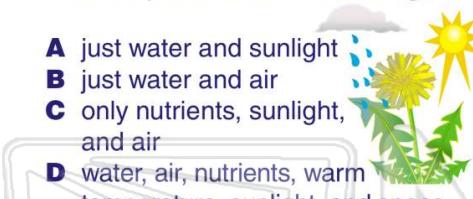
How do plants grow?

Name _____ Class _____ Date _____

1

What do plants need in order to **grow**?

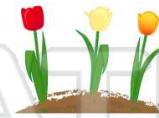
- A** just water and sunlight
- B** just water and air
- C** only nutrients, sunlight, and air
- D** water, air, nutrients, warm temperature, sunlight, and space



2

If a plant grows **too close** to other plants, it may not get enough water, nutrients, or room for its roots to grow and spread, because it will have to share what is available with nearby plants.

- A** true
- B** false



3

If a plant gets **too much** of something it needs to grow, such as water, it can die.

- A** true
- B** false



4

Many plants **begin** as a _____.

- A** seed
- B** leaf
- C** stem



5



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7

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- C** thin or thick seed coats
- D** several seed coats

- D** the cotyledon



9

A _____ is made up of three parts: the seed coat, cotyledon, and embryo.

- A** flower
- B** seed
- C** root
- D** stem



10

What part of the plant is the **arrow** pointing to in the diagram?

- A** flower
- B** stem
- C** cotyledon
- D** seed coat





How do plants grow?

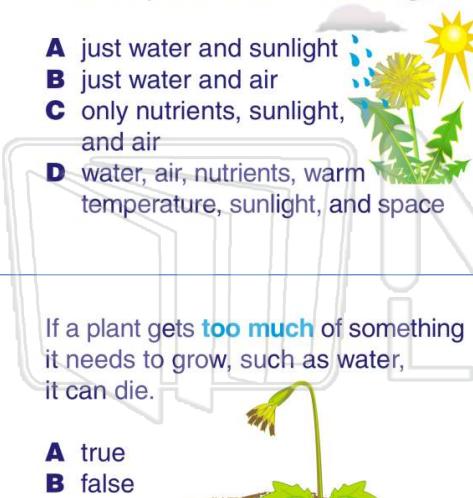
Name _____ Class _____ Date _____

1

What do plants need in order to **grow**?

- A** just water and sunlight
- B** just water and air
- C** only nutrients, sunlight, and air
- D** water, air, nutrients, warm temperature, sunlight, and space

D



2

If a plant grows **too close** to other plants, it may not get enough water, nutrients, or room for its roots to grow and spread, because it will have to share what is available with nearby plants.

- A** true
- B** false



A

3

If a plant gets **too much** of something it needs to grow, such as water, it can die.

- A** true
- B** false

A

4

Many plants **begin** as a _____.

- A** seed
- B** leaf
- C** stem



A

5



C

PREVIEW

7

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B

- C** thin or thick seed coats
- D** several seed coats

D the cotyledon



9

A _____ is made up of three parts: the seed coat, cotyledon, and embryo.

- A** flower
- B** seed
- C** root
- D** stem



B

10

What part of the plant is the **arrow** pointing to in the diagram?

- A** flower
- B** stem
- C** cotyledon
- D** seed coat



C



Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Bulb

Germination

Seedling

Cotyledon

Pod

Rhizome

Annual plant

Perennial plant

1. _____ - a young plant that is in its early stages of growth; a young plant



2. _____ - a plant that grows, flowers, produces seeds and dies all in the same year



3. food



4. spec.

5. seed
an ei

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6. lives

7. its seeds

_____ - a fruit that ripens, dries out and opens to release

8.

_____ - a flat, usually underground stem that roots grow out of, from which new flowers grow





Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Bulb

Germination

Seedling

Cotyledon

Pod

Rhizome

Annual plant

Perennial plant

1. seedling - a young plant that is in its early stages of growth; a young plant



2. annual plant - a plant that grows, flowers, produces seeds and dies all in the same year



3. bulb
need



4. cotyledon
form

5. germination
grow
embryo

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6. perennials
lives

7. pod - a fruit that ripens, dries out and opens to release its seeds



8. rhizome - a flat, usually underground stem that roots grow out of, which new flowers grow from





Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Perennial plant

Seedling

Tuber

Seed coat

Pod

Annual plant

Rhizome

Spore

1. - a plant that grows, flowers, produces seeds, and lives for three or more years

2. - a fruit that ripens, dries out and opens to release its seeds

3. out of

4. protection

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7. - a young plant that is in its early stages of growth; a young plant

8. - a plant that grows, flowers, produces seeds and dies all in the same year



Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Perennial plant

Seedling

Tuber

Seed coat

Pod

Annual plant

Rhizome

Spore

1. perennial plant - a plant that grows, flowers, produces seeds, and lives for three or more years



2. pod - a fruit that ripens, dries out and opens to release its seeds



3. rhizome
which



4. seedling
seed

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6. tuber
that

7. seedling - a young plant that is in its early stages of growth; a young plant



8. annual plant - a plant that grows, flowers, produces seeds and dies all in the same year

