Student Workbook

California Education and the Environment Initiative

2

Science Standards 2.2.e. and 2.2.f.

Supports ELA Standard: Reading 2.1.10.

Flowering Plants in Our Changing Environment

California Education and the Environment Initiative

Approved by the California State Board of Education, 2010

The Education and the Environment Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency

California Natural Resources Agency

Office of the Secretary of Education

California State Board of Education

California Department of Education

California Integrated Waste Management Board

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Key Partners:

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Contents

Lesson 1 Flowers to Fruit

Parts That Help an Orange Tree Reproduce 2

Lesson 2 People Depend on Plant Reproduction

None required for this lesson.

Lesson 3 Ecosystems Help Plants Grow and Reproduce

What a Joshua Tree Needs from the Desert 3

Lesson 4 Plants Change in a Changing Environment

What Might Happen to the Plant? 5

Lesson 5 When People Change Plants' Habitats

Things People Do That Stress Plants 8

Ways People Stress Plants 10

Name: _____

Instructions: Draw four parts of an orange tree that help the plant reproduce. Label each part on the line below the picture.

_____	_____
_____	_____

Name: _____

Instructions: Read about the Joshua Tree and what it needs.

The Joshua tree grows in the sunny and dry Mojave Desert. Like all plants, it needs some water to survive. Its pointed leaves catch rainwater. Its roots gather water from the soil.

This strange tree grows well where the weather is hot in the summer and cold in the winter.

Its flowers smell strongly at night.

The smell attracts yucca moths. The moths pollinate the flowers as they visit them during the night.

They are the only insect that carries pollen to this flower.

Later, the flower turns into a fruit.

Animals eat some of the flat seeds.

Some seeds blow away and find a new place in the soil.

If they get warmth and rain soon, they sprout.

This may start a new group of Joshua trees.

Name: _____

Instructions: Answer the questions in the spaces provided. (5 points each)

1. Where do Joshua trees live?

_____

2. How do they get water?

_____

3. What kind of weather do they need to grow?

_____

4. Why do they need yucca moths?

_____

5. What happens if some of the flowers are not pollinated?

_____

6. What happens if there are fewer fruits?

_____

7. What will happen if there are fewer seeds?

_____

8. What happens if the seeds do not get the rain they need?

_____

Name: _____

Instructions: Complete the tasks in the space provided. (5 points)

Change: Drought!

Very little rain or snow has fallen for the last five years.
The rocky soil is dry. The air is dry. It is a hot summer.

1. What might happen to the oak tree?
   Draw a picture and write a sentence about it.

Name: _____

Instructions: Complete the tasks in the space provided. (5 points)

Change: Too Much Shade!

Many tall trees grow over the blackberries.
Now they do not get enough sunlight.

2. What might happen to the blackberry bushes?
   Draw a picture and write a sentence about it.

Name: _____

Instructions: Complete the tasks in the space provided. (5 points)

Change: Frost!

One night, the temperature drops below freezing. Frost covers the orange tree's flowers and fruit for hours.

3. What might happen to the orange tree?
   Draw a picture and write a sentence about it.

Name: _____

Instructions: Look at the pairs of photographs and answer the questions. (1 point each)

1. Look at **Driving Over Dune Plants**.

   What is this person doing?

   What can this do to the dune grass?

   Why is this stressful for the plants?

2. Look at **Letting Weeds Take Over a Garden**.

   What is happening in the first photograph? What is happening in the second photograph?

Name: _____

What can weeds do to the garden plants?

Why is this stressful for the plants?

3. Look at **Spraying to Kill Weeds**.

What is the farmer doing?

Why do the people need to be careful when they are spraying?

Why is weed killer stressful to the pine trees?

Name: _____

Instructions: Read each sentence. Select the best answer and write the number on the line. (1 point each)

Write the number 1 on the line of the first thing to happen.
Write the number 2 on the line of the second thing to happen.
Write the number 3 on the line of the third thing to happen.

1. Driving over dune plants.

   _____ People ride over the dunes, breaking the dune grass.

   _____ Sand blows away.

   _____ Dune grass grows and holds down the sand.

2. Spraying to kill weeds.

   _____ The weed killer hurts the pine trees, too.

   _____ A farmer grows pine trees on a farm.

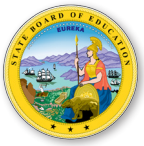
   _____ The farmer sprays weed killer near the trees to keep weeds from growing.

3. Pulling weeds in a garden.

   _____ Girls plant some vegetable seed in a garden.

   _____ Weeds grow taking up space in the garden.

   _____ Girls pull out the weeds.



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