## The Invaders!

## Here's the dirt...

nvasive species are insects, plants, animals, and diseases that are moved by nature or people into an ecosystem where they have not been previously found. They often have no natural predators to control their numbers and as a result, they outcompete or kill native plants and animals.

## Why do we care?

Invasive species can destroy agriculture crops, eliminate jobs, threaten food supplies, and damage our backyard gardens and wilderness areas. On average, a new pest is introduced into California every 60 days. Invasive species cost California's agriculture industry about \$3 billion per year in control methods and crop losses.



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Research one of the invasive species above and find its country of origin. Write a creative story that tells how the invasive species made its way to California and what agricultural or environmental damage it created once it got here. Include information on methods used to prevent the spread of the invasive species.

armer Fiona and her family grow oranges on their 100 acre farm. For this example, we will say the annual cost to grow oranges is

\$6,000 per acre. This includes watering, pruning, weed, pest, and nutrient management, along with equipment maintenance, and hired farm workers.

Each year, Fiona's farm usually produces 550 cartons of oranges per acre that may sell for around \$15 per carton. However, an insect called the Asian citrus psyllid invaded the orchard and infected 50% of the trees with the huanglongbing disease. In order to prevent the spread of the disease, the infected trees must be removed. On a separate piece of paper, explain the economic impact of this invasive species on Fiona's farm. Do the math to find out how much the farm would have made selling oranges if the orchard had not been infested by the Asian citrus psyllid.

## **How Can You Help?**

- If you travel out of the area, don't bring home food, plants, animals, firewood, or other material that might carry an invasive species.
- Do not release pets such as hamsters, gold fish, and reptiles into the wild.
- Plant only native plants in your yard.



Dogs, trained to detect agricultural products in shipments play an important role in preventing the spread of invasive species. These dogs work with their handlers in airports, shipping centers, ports,

and state and country borders. When the dogs smell agricultural products like fruits, vegetables, plants, soil, wood, or certain insects, they scratch at the container. The container is then opened and inspected by a biologist to check for invasive species. If any are found they are properly disposed of or shipped back to the person who sent the package. After the dogs work for a few hours, they have mandatory play or nap time!

Meet the detective dogs working in California by visiting www.cdfa.ca.gov/plant/dogteams.

California Standards: ELA CCSS: RL3-5.1, RL3-5.3, RL3-5.4, RL3-5.7, RL6-8.1, RL6-8.3, RL6-8.4, W.3-5.2, W.3-5.4, W.3-5.7, W.6-8.2, W.6-8.4, W.6-8.7 Math CCSS: 3-4.OA.1, 3-4.OA.2, 3.0A.8, 4.OA.3 NGSS: 3-LS2.C, 3-LS4.C, MS.LS2.C

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