

Activity #3

Race to the Wetlands Game

● ● ● Class Period One *Race to the Wetlands Game*

Materials & Setup _____

For each group of six to eight students

- One die
- “Race to the Wetlands Game Board” (included with this curriculum)
- “Race to the Wetlands Instruction Card” (master, p. 36)
- “Race to the Wetlands Game Cards” (master, pp. 37-61)
- Six to eight player pieces (master, p. 62)
- Six to eight pennies

Instructions _____

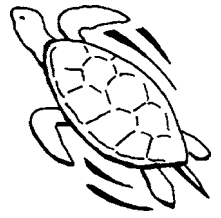
- 1) Divide students into groups of six to eight. Conduct the game. Use the game materials provided with the curriculum and the instruction card. This game is based on the ant collection activity and student reading assignments. Students will be “tested” on what they have read as well as learn new facts.

Journal Ideas _____

- Compare the game version of the race between ants and humans to the real-life efforts that people are making to prevent the arrival and establishment of red imported fire ants on Maui.

Assessment Tools _____

- Participation in the game



Race to the Wetlands

Instruction Card

Object of the Game

In this game, you are either a red imported fire ant or a human. The object is for all members of either species to get to Keālia Pond first. If all the people get to Keālia Pond first, they win and can stop the ants from threatening the native wildlife there. If all the ants get there first, they win and establish a population too large and too widespread for people to eradicate.

Rules

- Out of six to eight players, half are ants and half are people. Roll the die to determine who goes first, and proceed in a clockwise direction.
- Move your player pieces by the roll of the die, answering questions, and/or following instructions given on the game cards.
- Each player rolls the die only once per turn and draws only one card per turn.
- Keep each type of card in a separate pile. Once you have used a game card, put it on the bottom of the pile it was drawn from.
- When you land on a space, follow the symbol. Here's what happens:

✓ = Hazards and Opportunities

Another player draws a card and reads you the instructions on it. Follow them.

▼ = Red Imported Fire Ants

★ = Prevention and Control

◆ = General Knowledge

✕ = Little Fire Ants

Another player draws a card and reads the question on it. You answer the question.

Movement

Correct answer = Move forward 3 spaces.

Incorrect answer = Move back 1 space.

● = Cooperation Opportunity

Work together with your teammates (fellow ants or humans) to answer two questions from your choice of the four question categories

(▼★◆✕).

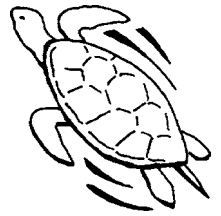
Movement

Answer both questions correctly = Each player on the team moves forward 3 spaces from where they are.





Get 1 answer wrong = Each player on the team moves backward 3 spaces from where they are.

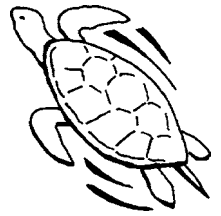
To Win

Each player who reaches Keālia Pond (the endpoint of the game board) can help their team members (ants or people) answer questions until either all the ants are at the pond or all the people are at the pond. The first team with all members at Keālia Pond wins, and the game ends.







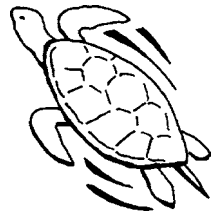
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

| | |
|---|--|
|  Hazards & Opportunities |  Hazards & Opportunities |
| <p>You're babysitting, and you're afraid to let the kids play outside on the lawn because there could be stinging little fire ants there. Miss a turn while you recover from too much time in front of the T.V.</p> | <p>You go surveying for ants on private property without asking the landowner's permission. Go back two spaces.</p> |
|  Hazards & Opportunities |  Hazards & Opportunities |
| <p>While surveying for ants, you collected several ants that might be <i>Wasmannia auropunctata</i>. Since you carefully labeled your specimens, researchers will be able to use the ants you collected. Go forward two spaces.</p> | <p>In conducting an ant survey, you got so curious that you kept going back every 15 minutes to check whether there were any ants on your baited chopsticks. Go back two spaces until you learn more patience.</p> |



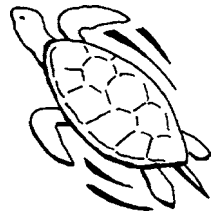
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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|  <p>Hazards & Opportunities</p> |  <p>Hazards & Opportunities</p> |
| <p>You forgot to freeze your ants after collecting them, so you cannot do the identification lab. Miss a turn.</p> | <p>You're researching the red imported fire ant's impacts on wood ducks in Alabama, and you inadvertently disturb an ant colony. Miss a turn while you recover from the painful stings.</p> |
|  <p>Hazards & Opportunities</p> |  <p>Hazards & Opportunities</p> |
| <p>You get together with a student club to help the Hawai'i Ant Working Group do a public education campaign about preventing the spread of new ant species to Maui. Roll the die and move forward the corresponding number of spaces.</p> | <p>You develop a possible technique for eradicating established RIFA populations. Move forward two spaces while your technique is being tested in California.</p> |







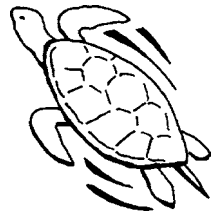
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

| | |
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|  Hazards & Opportunities |  Hazards & Opportunities |
| <p>You're conducting your ant survey and you notice fast-moving ants on one of your chopsticks. You remember that <i>Solenopsis geminata</i> is a stinging ant species that moves quickly so you use tongs to pick up the chopstick and put it in the bag without danger of being stung. Roll the die and move forward the corresponding number of spaces.</p> | <p>In conducting an ant survey, you were careful to put the ants and baited chopsticks into a plastic bag and seal it up before taking a close look at the ants. Move forward two spaces.</p> |
|  Red Imported Fire Ants |  Red Imported Fire Ants |
| <p>The Latin name of the red imported fire ant is <i>Solenopsis invicta</i>. What does "invicta" mean?</p> <p>Invincible</p> | <p>True or false? There can be 1500-3000 worker ants per square meter in areas infested by the red imported fire ant.</p> <p>True</p> |







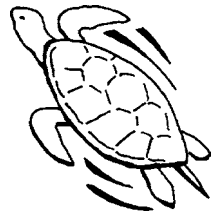
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>What do red imported fire ants do when their nest is disturbed or the object they are on moves?</p> <ol style="list-style-type: none">1) Run away2) Squirt a poisonous liquid onto the invader3) Swarm by the thousands and relentlessly sting whatever disturbed them <p>(3)</p> | <p>True or false? One researcher was stung 1200 times on one leg within ten seconds of inadvertently disturbing a RIFA nest.</p> <p>False—the researcher was stung 250 times.</p> |
| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? Each red imported fire ant can sting only one time before it dies.</p> <p>False—each one can sting repeatedly.</p> | <p>Red imported fire ants prey upon:</p> <ol style="list-style-type: none">1) Invertebrates2) Vertebrates3) Plants4) All of the above <p>(4)</p> |



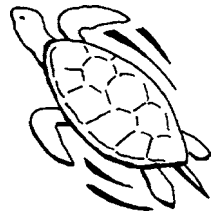
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| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? Red imported fire ants have been discovered on Maui, in an area near Keālia Pond National Wildlife Refuge.</p> <p>False</p> | <p>True or false? Human deaths have never been associated with RIFA attacks.</p> <p>False—individuals who are hypersensitive to <i>Solenopsis invicta</i> venom and bedridden, immobile individuals have died as a result of attacks.</p> |
| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>Why are nestlings and pipped eggs of ground-nesting birds, turtles, and lizards especially vulnerable to RIFA predation?</p> <p>They are relatively immobile and unable to run away from attacking ants. Also, they are on the ground, where foraging ants are more likely to find them.</p> | <p>In what part of the world is the red imported fire ant native?</p> <ol style="list-style-type: none">1) Central America and the northern regions of South America2) Southeast Asia3) Southern Brazil4) Portugal <p>(3)</p> |







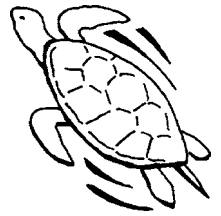
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| <p style="text-align: center;">▲</p> <p style="text-align: center;">Red Imported Fire Ants</p> | <p style="text-align: center;">▲</p> <p style="text-align: center;">Red Imported Fire Ants</p> |
| <p>How was the red imported fire ant originally brought to the United States?</p> <ol style="list-style-type: none"> 1) As part of an ant farm science fair project 2) In soil used as ship ballast 3) As a biological control agent for the potato bud worm <p>(2)</p> | <p>True or false? The red imported fire ant is widespread in every state in the U.S. except Alaska and Hawai'i.</p> <p>False—RIFA is found in 13 states and Puerto Rico.</p> |
| <p style="text-align: center;">▲</p> <p style="text-align: center;">Red Imported Fire Ants</p> | <p style="text-align: center;">▲</p> <p style="text-align: center;">Red Imported Fire Ants</p> |
| <p>True or false? Red imported fire ants do not pose a threat to populations of water birds such as ducks, egrets, and coots, because these birds can easily fly or swim away from the ants.</p> <p>False—nestlings and pipped eggs are vulnerable to predation. They cannot easily escape attacking ants.</p> | <p>Red imported fire ants can have benefits for agriculture, including:</p> <ol style="list-style-type: none"> 1) Preying upon pest species in sugar cane and cotton fields 2) Preventing birds from damaging crops 3) Helping control flea and tick populations 4) A and C <p>(4)</p> |







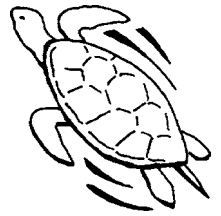
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| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? In some places where the red imported fire ant has invaded, it is impossible to sit in the grass or stand on a shoreline to fish without getting stung.</p> <p>True</p> | <p>True or false? It is possible to eradicate established populations of red imported fire ants by burning their colonies.</p> <p>False—once the red imported fire ant has become well-established, it has proven impossible to eradicate.</p> |
| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? In many places, control programs have reduced ant populations to bearable levels with repeated use of chemical pesticides.</p> <p>True</p> | <p>Name one concern people have about using chemical pesticides to control RIFA.</p> <p>Any of the following are correct:</p> <ul style="list-style-type: none"> • The pesticides only control the populations, and don't eradicate the ant. • Chemical pesticides work only in limited areas. • Widespread use of these pesticides would pose a threat to water quality and the overall health of ecosystems such as wetlands. |







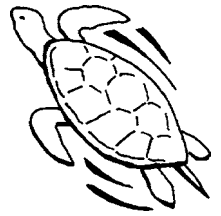
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| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? Electrical equipment is generally safe from red imported fire ants infestation because of the danger of electrocution.</p> <p>False—red imported fire ants chew on insulation and cause short circuits, and interfere with switching mechanisms.</p> | <p>True or false? Red imported fire ants thrive in seasonally flooded areas.</p> <p>True</p> |
| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>In 1998, RIFA was discovered in California. Now that the ant has gained a foothold in California, why do many people believe it is just a matter of time before these ants make it to Hawai‘i?</p> <p>So many goods and people come to Hawai‘i from California. There are plenty of opportunities for the ants to hitch a ride.</p> | <p>True or false? Most ant species are adapted to live in seasonally flooded areas such as wetlands.</p> <p>False</p> |







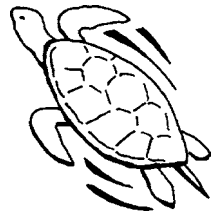
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| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? Red imported fire ants have successfully worked their way across 300 million acres in the southern continental United States despite the existence of a federal quarantine policy begun in 1958.</p> <p>True</p> | <p>True or false? Since the agriculture quarantine is likely to keep the red imported fires ants out of Hawai‘i, the Hawai‘i Ant Working Group is not making any contingency plans to deal with the possible establishment of RIFA on the islands.</p> <p>False</p> |
| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? Birds that nest off the ground are safe from red imported fire ant predation.</p> <p>False—one study, for example, found that red imported fire ants prey on wood duck nestlings. These birds nest in tree cavities and nesting boxes mounted on posts.</p> | <p>True or false? If some wetlands in Hawai‘i are invaded by red imported fire ants, there would probably still be plenty of wetlands areas left to support endangered birds such as the <i>ae‘o</i> since wetlands cover about 20 percent of the land area of the islands.</p> <p>False</p> |



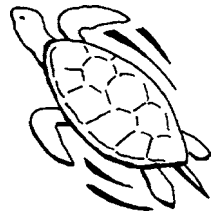
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| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>In the southern U.S., economic damage caused by RIFA is about how much each year?</p> <ol style="list-style-type: none">1) \$1 billion2) \$750,0003) \$1.5 million <p>(1)</p> | <p>True or false? Red imported fire ants do not harm citrus trees, because these trees produce an acidic substance that repels the ants.</p> <p>False—RIFA damage citrus trees.</p> |
| <p style="text-align: center;"> Red Imported Fire Ants</p> | <p style="text-align: center;"> Red Imported Fire Ants</p> |
| <p>True or false? Red imported fire ants are primarily carnivorous.</p> <p>False—They are opportunistic feeders, meaning they eat whatever they can find. That includes plant roots, shoots, buds, fruits, and seeds.</p> | <p>True or false? In areas heavily infested by RIFA, 30 percent to 60 percent of people are stung each year, with children and infants having the highest sting rate.</p> <p>True</p> |



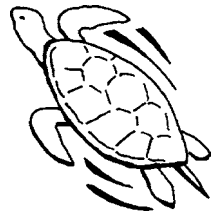
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| <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> | <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> |
| <p>True or false? Since red imported fire ants nest in the ground, imported goods that contain soil (such as nursery stock, potted plants, construction equipment that is not cleaned of soil, and residual soil in shipping containers) are the highest risk goods for transporting RIFA to Maui.</p> <p>True</p> | <p>True or false? It's important to monitor all goods coming in by sea for the presence of red imported fire ants, but air cargo is of no concern.</p> <p>False—RIFA could arrive along with goods shipped in any manner from infested areas.</p> |
| <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> | <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> |
| <p>True or false? Shipments via first-class mail and private couriers such as UPS and Federal Express shipped from infested areas are all inspected for the presence of RIFA.</p> <p>False</p> | <p>True or false? Building materials and other nonagricultural items are regularly inspected or treated for RIFA before being released for distribution in Hawai'i.</p> <p>False—soil and agricultural products are regularly inspected or treated, but nonagricultural items usually are not.</p> |




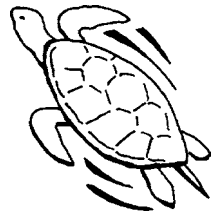
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| <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> | <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> |
| <p>True or false? The Hawai‘i Department of Agriculture inspects all potted plants shipped to Hawai‘i from RIFA-infested areas.</p> <p>True</p> | <p>The Hawai‘i Ant Working Group is considering several different ways of preventing the arrival of RIFA on Maui. Name one that you read about:</p> <p>Any of the following is correct:</p> <ol style="list-style-type: none"> 1) Chemically treat goods before they are shipped from RIFA-infested areas. 2) Give Hawai‘i Department of Agriculture inspectors the authority to inspect nonagricultural items such as building materials. 3) Establish regular state reviews of first-class mail from the mainland, looking for suspicious packages and then applying for federal warrants to inspect these packages. |
| <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> | <p style="text-align: center;">★</p> <p style="text-align: center;">Prevention & Control</p> |
| <p>True or false? So far, Spam has been found to be the best bait for attracting red imported fire ants.</p> <p>True</p> | <p>True or false? The state has enough entomologists on staff to adequately survey high-risk areas such as construction sites, recently landscaped sites, and areas surrounding ports and cargo warehouses.</p> <p>False</p> |







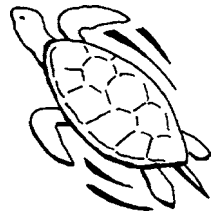
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| <p style="text-align: center;"> Prevention & Control</p> | <p style="text-align: center;"> Prevention & Control</p> |
| <p>Name one high-risk area for new RIFA infestations.</p> <p>Correct answers:</p> <ul style="list-style-type: none"> •Nurseries •Construction sites •Newly landscaped sites •Areas surrounding ports and cargo warehouses | <p>True or false? Educating the public about the red imported fire ant won't help because average people can't do anything to stop their spread.</p> <p>False—the more people are keeping an eye out for RIFA, the better chance of detecting any populations that get established on Maui before they get too big to eradicate.</p> |
| <p style="text-align: center;"> Prevention & Control</p> | <p style="text-align: center;"> Prevention & Control</p> |
| <p>True or false? Because RIFA is such a threat to people, native species, and natural areas on Maui, state and local government agencies have gotten a blanket permit to allow them to use whatever pesticides are necessary to eliminate any new populations that are found.</p> <p>False—state and federal permits and registrations are needed in advance for each pesticide that may be used.</p> | <p>True or false? The heavy pesticide use required for ongoing control of RIFA populations can pose a threat to water quality.</p> <p>True</p> |







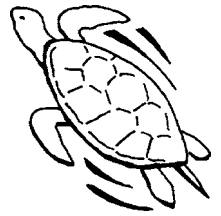
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|---|--|
| <p style="text-align: center;"> Prevention & Control</p> | <p style="text-align: center;"> Prevention & Control</p> |
| <p>True or false? Crews in California have had success eradicating well-established RIFA populations by pouring boiling water into their nests.</p> <p>False—no way of eradicating well-established populations has been found yet.</p> | <p>True or false? At all ports of entry, there are currently inspection teams that use the latest technologies and ant attracters to inspect all goods that have been identified as potential pathways for RIFA introduction.</p> <p>False</p> |
| <p style="text-align: center;"> Prevention & Control</p> | <p style="text-align: center;"> Prevention & Control</p> |
| <p>True or false? The Hawai‘i Department of Agriculture has recognized RIFA as such a potential threat that it has given RIFA response crews authority to eradicate the ants on private land without owner permission if RIFA are ever found on the islands.</p> <p>False</p> | <p>True or false? Efforts to keep RIFA populations to bearable numbers have resulted in pesticide-contaminated water systems in several mainland areas.</p> <p>True</p> |







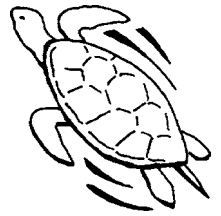
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|---|---|
| <p style="text-align: center;"> General knowledge</p> | <p style="text-align: center;"> General knowledge</p> |
| <p>How many ant species are native to the Hawaiian Islands?</p> <p>None</p> | <p>What is an invertebrate?</p> <p>An animal that lacks a spinal column</p> |
| <p style="text-align: center;"> General knowledge</p> | <p style="text-align: center;"> General knowledge</p> |
| <p>What is a vertebrate?</p> <p>An animal that has a spinal column</p> | <p>Are ants vertebrates or invertebrates?</p> <p>Invertebrates</p> |






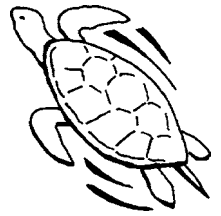
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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|  General knowledge |  General knowledge |
| <p>What is a quarantine?</p> <p>A series of precautions and inspections designed to keep pest species from getting to uninfested areas</p> | <p>What does “budding” mean in reference to ant reproduction?</p> <ol style="list-style-type: none"> 1) Each egg a queen ant lays produces several larvae. 2) Newly mated queens disperse on foot to a new location within a few meters of their birth colony and create a new nest there. 3) On male larvae, “budding” refers to the growth of wings, which female worker ants do not have. <p>(2)</p> |
|  General knowledge |  General knowledge |
| <p>True or false? The big-headed ant is the only ant species native to the Hawaiian Islands.</p> <p>False</p> | <p>In 1992, Keālia Pond National Wildlife Refuge was created from land donated to the federal government by:</p> <ol style="list-style-type: none"> 1) The state of Hawai‘i 2) Bill Gates 3) The Alexander & Baldwin Company 4) The Audubon Society <p>(3)</p> |



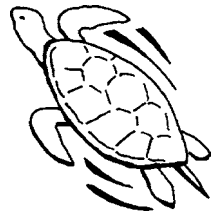
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|---|--|
| <p style="text-align: center;"> General knowledge</p> | <p style="text-align: center;"> General knowledge</p> |
| <p>Name one of the three endangered Hawaiian water bird species for which Keālia Pond National Wildlife Refuge is designed to protect habitat.</p> <p><i>Ae'o</i> (Hawaiian black-necked stilt), <i>'Alae ke'oke'o</i> (Hawaiian coot), OR <i>Koloa</i> (Hawaiian duck)</p> | <p>What is a “pipped” egg?</p> <p>An egg in the early stages of hatching, in which the young bird has broken a hole in the shell.</p> |
| <p style="text-align: center;"> General knowledge</p> | <p style="text-align: center;"> General knowledge</p> |
| <p>Wetlands cover what percentage of the total land area of the Hawaiian Islands?</p> <ol style="list-style-type: none">1) Three percent2) Twelve percent3) Twenty-six percent <p>(1)</p> | <p>Approximately how large is the remaining population of endangered <i>ae'o</i> (Hawaiian black-necked stilts) among all of the Islands?</p> <ol style="list-style-type: none">1) 602) 56003) 1500 <p>(3)</p> |







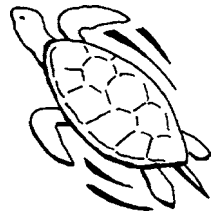
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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| <p style="text-align: center;"> General Knowledge</p> | <p style="text-align: center;"> General Knowledge</p> |
| <p>True or false? Degradation and loss of wetlands habitat have been primary contributors to declines in populations of native water birds.</p> <p>True</p> | <p>True or false? The coastal ecosystem is the only one on the Hawaiian Islands in which native plants and animals evolved side-by-side with native ants.</p> <p>False—there are no ant species native to Hawai‘i.</p> |
| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>What is the Latin name of the little fire ant?</p> <p><i>Wasmannia auropunctata</i></p> | <p>Has the little fire ant been discovered yet on Maui?</p> <p>No</p> |







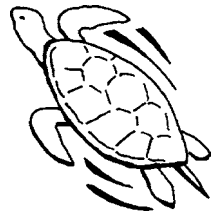
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>Where is the little fire ant native?</p> <ol style="list-style-type: none">1) Central America and the northern part of South America2) Southern Africa3) The Galapagos Islands <p>(1)</p> | <p>How did the little fire ant get its name?</p> <p>From its powerful sting that can feel fire-like to the person or animal receiving the sting</p> |
| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>Name one sensitive body part that little fire ants have been known to sting on animals such as Galapagos tortoises.</p> <p>Eyes or reproductive organs</p> | <p>Little fire ants eliminate or reduce populations of invertebrates and vertebrates by:</p> <ol style="list-style-type: none">1) Preying on them2) Outcompeting them for food3) Taking over nesting habitat4) All of the above <p>(4)</p> |







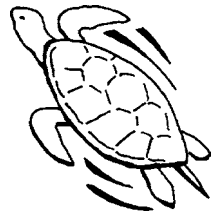
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>What do little fire ants do when they are touched, stepped on, or rolled on?</p> <p>Sting</p> | <p>Why is gardening or picking flowers a hazard in areas infested by little fire ants?</p> <p>Little fire ants sometimes nest or feed in plants, and they sting when people come into contact with the plants.</p> |
| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>True or false? Each little fire ant can sting only once and then it dies.</p> <p>False—an individual little fire ant can deliver multiple stings.</p> | <p>True or false? Dogs and cats are safe from little fire ant stings because of their thick fur.</p> <p>False</p> |



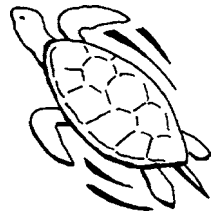
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| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>True or false? After they are stung by little fire ants, some people develop painful welts that may itch for several days as they heal.</p> <p>True</p> | <p>On which Hawaiian Island have little fire ants already been discovered?</p> <p>Hawai'i</p> |
| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>True or false? Nursery plants shipped from infested areas are a common way that tramp ant species like little fire ants can get to uninfested areas.</p> <p>True</p> | <p>True or false? The little fire ant became established in areas around Hilo by stowing away in nursery stock imported to the island from another country or possibly from Florida.</p> <p>True</p> |







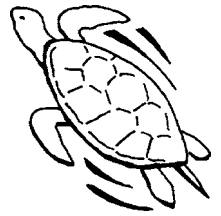
Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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| <p style="text-align: center;">X</p> <p style="text-align: center;">Little Fire Ants</p> | <p style="text-align: center;">X</p> <p style="text-align: center;">Little Fire Ants</p> |
| <p>Why are newly landscaped areas a likely place for the little fire ant to become established on Maui?</p> <ol style="list-style-type: none"> 1) Landscaping loosens the soil so the ants can build nests. 2) Ants and their nests can travel to Maui on nursery plants shipped from infested areas. 3) Food that landscapers bring to the job site attracts little fire ants. <p>(2)</p> | <p>True or false? The Hawai'i Department of Agriculture requires random inspection of nursery stock being shipped from little fire ant-infested areas of the Big Island.</p> <p>False—the Department of Agriculture requires ALL nursery stock shipped from infested areas to be inspected before they are shipped.</p> |
| <p style="text-align: center;">X</p> <p style="text-align: center;">Little Fire Ants</p> | <p style="text-align: center;">X</p> <p style="text-align: center;">Little Fire Ants</p> |
| <p>How long do entomologists think that the little fire ant may have been on the Big Island before it was discovered in 1999?</p> <ol style="list-style-type: none"> 1) Ten years 2) Five or six years 3) Six months <p>(2)</p> | <p>If little fire ants are found on nursery stock to be shipped from the Big Island, what happens?</p> <ol style="list-style-type: none"> 1) The plants are treated with insecticide before being shipped or not shipped at all. 2) The plants and the soil they were grown in are burned to destroy ants and their nests. 3) The plants are put into a large cooler because the ants cannot survive temperatures below 50° F. <p>(1)</p> |







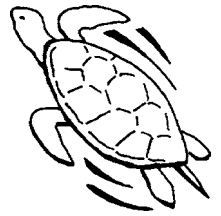
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| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>True or false? Since little fire ants have not been discovered yet on Maui, it's highly unlikely that these ants have made it to this island.</p> <p>False</p> | <p>True or false? The Hawai'i Department of Agriculture has instituted a little fire ant quarantine on agriculture and nursery items destined for uninfested areas of the state.</p> <p>True</p> |
| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>Why is it important to detect the little fire ant before it develops large, well-established populations?</p> <p>There is a much better chance of eradicating them or controlling their spread if we find them when populations are still small.</p> | <p>True or false? Even though they're called "little" fire ants, these ants are not small. They are usually more than 3/4 of an inch long.</p> <p>False</p> |






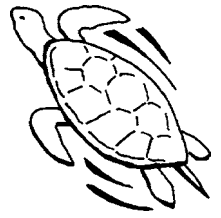
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| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>True or false? Little fire ants move very quickly, so it is difficult to avoid getting stung while surveying for them.</p> <p>False</p> | <p>True or false? When new little fire ant queens mate and leave the nest, they fly as much as a mile away to establish a new nest.</p> <p>False—little fire ants disperse by budding, where the queen walks a short distance to establish a new nest.</p> |
| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>True or false? Little fire ants nest only in shrubs and trees.</p> <p>False—little fire ants are both terrestrial (ground-dwelling) and arboreal (tree-dwelling), and nest almost anywhere, including on the ground (under logs, sticks, rocks, or debris) and in plants or trees (under the bark or in crevices of the plant).</p> | <p>True or false? The antennal scrobe is a fibrous sheath that covers an ant's antennae.</p> <p>False—it's a groove into which the antennae can be folded.</p> |



Race to the Wetlands Game Cards (cut solid lines, fold on dashed lines)

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| <p style="text-align: center;"> Little Fire Ants</p> | <p style="text-align: center;"> Little Fire Ants</p> |
| <p>True or false? <i>Wasmannia auropunctata</i> is a bicolored ant.</p> <p>False</p> | <p>True or false? <i>Wasmannia auropunctata</i> has a pair of long, pointy spines on its propodeum.</p> <p>True</p> |
| <p style="text-align: center;"> Little Fire Ants</p> | |
| <p>True or false? When disturbed, little fire ants tend to move slowly or stand still.</p> <p>True</p> | |



Race to the Wetlands Game Pieces

Cut out circles and tape to pennies.

