Australian Government

Department of Agriculture, Fisheries and Forestry

Biosecurity champions

Teacher guide – Year 3

JUNIOR BIOSECURITY OFFICER

Learning areas and Australian Curriculum content

Design and Technologies

Describe the ways of producing food and fibre **(AC9TDE4K03)**.

English

Understand that cooperation with others depends on shared understanding of social conventions, including turn-taking language, which vary according to the degree of formality **(AC9E3LA01)**.

Use interaction skills to contribute to conversations and discussions to share information and ideas **(AC9E3LY02)**.

Use comprehension strategies when listening and viewing to build literal and inferred meaning, and begin to evaluate texts by drawing on a growing knowledge of context, text structures and language features **(AC9E3LY05)**.

Plan, create, rehearse and deliver short oral and/or multimodal presentations to inform, express opinions or tell stories, using a clear structure, details to elaborate ideas, topic-specific and precise vocabulary, visual features, and appropriate tone, pace, pitch and volume **(AC9E3LY07)**.

Humanities and Social Sciences

The ways First Nations Australians in different parts of Australia are interconnected with Country/Place **(AC9HS3K04)**.

Who makes rules, why rules are important in the school and/or the local community, and the consequences of rules not being followed **(AC9HS3K06)**.

Why people participate within communities and how students can actively participate and contribute to communities **(AC9HS3K07)**.

Develop questions to guide investigations about people, events, places and issues **(AC9HS3S01)**.

Locate, collect and record information and data from a range of sources, including annotated timelines and maps **(AC9HS3S02)**.
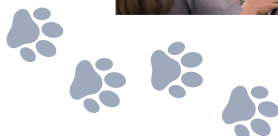
Draw conclusions based on analysis of information **(AC9HS3S05)**.

Propose actions or responses to an issue or challenge that consider possible effects of actions **(AC9HS3S06)**.

Science

Consider how people use scientific explanations to meet a need or solve a problem **(AC9S3H02)**.

Contents

Lesson objective

Students will gain an understanding of biosecurity and its importance in protecting Australia's people, environment and resources. They will understand how pests and diseases impact humans, agriculture and ecosystems. They will learn about biosecurity threats and how various roles, such as biosecurity officers, scientists and government officials, protect the community from biosecurity threats. Students will work together and engage in a problem-solving competition that revolves around the scenario of hosting international events in Australia. They will collaborate in teams to identify potential biosecurity risks and develop effective risk plans, fostering skills in teamwork and creative problem-solving and encouraging them to apply their knowledge in practical, real-world scenarios.

Lesson overview

Activity 1 – Pests, diseases and biosecurity **(20 to 30 mins)**

Activity 2 – How do people protect Australia? **(30 to 40 mins)**

Activity 3 – Biosecurity challenge **(60 mins)**

Success criteria

1. Understand biosecurity and its impact

I can explain biosecurity, why it is important and how it helps protect Australia's environment, agriculture and population from pests and diseases.

2. Role-play biosecurity stakeholders

I can assume the role of a biosecurity stakeholder, such as a scientist or biosecurity officer, and demonstrate their responsibilities in protecting the community during the role-play activity.

3. Participate in the biosecurity challenge

I can actively participate in the biosecurity challenge, collaborating with peers to solve biosecurity-related problems and demonstrating an understanding of how biosecurity measures are essential during international events like the Olympics.

4. Propose solutions to biosecurity threats

I can work with a team to identify potential biosecurity risks associated with hosting international events and propose practical and effective risk management plans.

Additional information

Junior Biosecurity Officer certificate

Students colour a paw print on the **Junior Biosecurity Officer certificate** for each completed activity, visually tracking their learning journey with Frankie the biosecurity detector dog.

Take home challenge

Students become biosecurity champion 'graduates' by completing the **take home challenge**. They can test their carer's knowledge by quizzing them on biosecurity trivia and interviewing them about their experiences with biosecurity rules and regulations.

Biosecurity poster (assessment)

The **biosecurity awareness campaign poster** for Year 2 to 5 invites students to create an educational poster on the importance of biosecurity, incorporating interactive elements like flaps, pop-ups and QR codes. This activity enhances understanding through creative engagement. A **marking rubric** is available for teachers.

Surveys and feedback

The **student survey** may be used for students to assess understanding pre- and post-lesson, while the **teacher survey**, available online, gathers feedback from educators about student performance and resource value.

Resources and equipment

⊙ Activity 1 – Pests, diseases and biosecurity

1. **Worksheet 1a – Stimulus images: at the airport**
2. Australia's biosecurity – DAFF (1:46)
3. Our biosecurity detector dogs safeguarding Australia (2:52)
4. **Worksheet 1b – Fact sheet: pests, diseases and biosecurity**
5. **Worksheet 1c – Sentences: pests, diseases and biosecurity**

⊙ Activity 2 – How do people protect Australia?

1. **Worksheet 2a – Stimulus**
2. Become a biosecurity officer (4:53)
3. Country Handle with Care – Episode 6 Protecting Country (10:12)
4. **Worksheet 2b – Role-play: how do people protect Australia?**
5. Optional: Dress-ups (shirt, trousers, business shirts, lab coat, glasses, clipboard, polo shirt, comfortable clothing, toy detector dog, casual dress and/or badges)

⊙ Activity 3 – Biosecurity challenge

1. You can be a Biosecurity Champion too!
2. Travellers and Tourists (3:25)
3. Keep it out (1:53)
4. **Worksheet 3a – Biosecurity challenge**
5. **Worksheet 3b – Biosecurity challenge answer sheet**
6. Timer, scissors, rulers, paper
7. Digital devices

Lesson guide

⊙ Activity 1 – Pests, diseases and biosecurity

Students will explore pests and diseases and how they spread. Through class discussions and interactive activities, students will understand how important biosecurity is to prevent the entry and spread of biosecurity threats in Australia and why these measures are crucial for safeguarding Australia's environment, plants and animals, human health, jobs, the economy and our way of life.

1. Project or distribute copies of **Worksheet 1a – Stimulus images: at the airport** to generate a discussion about what is happening in the image. Pose questions to students such as:

   - What do you think is happening in these scenes?
   - Who are the people in the uniform?
   - Why do you think this is happening?
   - When does this happen?
   - What might happen if these actions were not performed?

2. If suitable, encourage a class discussion about students' experiences with overseas travel and ask them if they have noticed what procedures are in place when they enter and exit Australia. Focus on biosecurity procedures (such as disposing of fruit in biosecurity bins, asking where they have travelled and declaring items such as food and wood products), rather than immigration. Promote a discussion on why Australia has these procedures in place to prevent the entry of pests and diseases and the threats they may pose if they were to enter the country.

3. Introduce the term biosecurity by writing 'Biosecurity' in a central area, leaving a space between 'bio' and 'security'. Encourage a class discussion to define the two and then the entire word. Record student responses. **Answers page 10** 🖑

4. View the video **Australia's biosecurity – DAFF** (1:46) to learn about Australia's biosecurity systems and how important it is to be protected from pests and diseases.

5. Optional: view the video **Our biosecurity detector dogs safeguarding Australia** (2:52) to learn about the work biosecurity detector dogs do at seaports, airports and mail centres to detect biosecurity risks.

6. Distribute **Worksheet 1b – Fact sheet: pests, diseases and biosecurity**. Students read the information either individually, in small groups or as a class. Then, they use the information to complete the sentences on **Worksheet 1c – Sentences: pests, diseases and biosecurity.**

7. Project the worksheet answers and discuss student responses. **Answers page 10** 🖑

⊙ Activity 2 – How do people protect Australia?

Students will deepen their understanding of biosecurity and its importance through an interactive role-play in which they assume the roles of key stakeholders involved in biosecurity. They will participate in the scenario of various people speaking at a school's careers day.

1. Project **Worksheet 2a – Stimulus**. Ask students to think about the questions for one minute. After this time, students turn and talk to the person next to them to share their ideas with each other. Select individuals to share their thoughts with the rest of the class.

2. Visit Become a biosecurity officer and watch the video under Why biosecurity is important (4:53). Then watch the video Country Handle with Care – Episode 6 Protecting Country (10:12) to introduce the concept of stakeholders in Australian biosecurity.

3. Distribute **Worksheet 2b – Role-play: how do people protect Australia?** to explore different perspectives and responsibilities in managing biosecurity threats. Read the instructions and questions on page one together, and then complete the activity using the scripted role-play on the worksheet. At points in the role-play, students will ask the participants questions. Assist in coordinating and responding to the answers students provide.

4. Either divide students into small groups and allocate them roles as:

   - Chairperson
   - Government official
   - Scientist
   - Member of the general public
   - Biosecurity officer
   - Biosecurity detector dog handler

   Alternatively, nominate six students to perform the role-play in front of the class. Students act out the roles of the biosecurity stakeholders for the provided scenario.

5. After the role-play has been completed, ask pairs to complete the turn and talk questions (sharing their ideas with the class) and then as a group, consider the class questions and share ideas and experiences. **Suggested answers page 10** 👆

⊙ Activity 3 – Biosecurity challenge

Students will participate in the biosecurity challenge, a collaborative activity centred on the importance of biosecurity in the context of hosting international events. This group challenge combines competitive elements with scenarios requiring teamwork, problem-solving and an understanding of the importance of protecting Australia's people and environment. Each event is designed to accommodate various learning styles, fostering a sense of achievement and responsibility among participants. Depending on the literacy and comprehension skills of the class, teachers may choose to access this activity (Activity 3 – Biosecurity challenge) from either the Year 3, 4 or 5 resources. Complexity of the biosecurity challenge varies according to year level.

1. As a class, view the video content from the website You can be a Biosecurity Champion too!
   Go to the video presented by Catrina Rowntree, Travellers and Tourists (3:25) and Xyllela and exotic vectors (scroll to the *Keep it out* video focused on *Xylella fastidiosa* (1:53)) to introduce/remind students about the importance of tourists and travellers keeping Australia safe from exotic pests and diseases.

2. Allocate students into groups of two to five, considering literacy level and comprehension skills.

3. Determine the appropriate version (Year 3, 4 or 5), challenge type (A or B) and distribution option (i, ii or iii) for each class.

Version		Description
Year 3	Two–three questions per event	Recommended for years 3–4 classes with developing literacy and comprehension skills. Ideal for students who need guidance in research, group collaboration and recording responses.
Year 4	Four questions per event	Best suited for years 3–4 or classes with more developed literacy and comprehension skills. Designed for students capable of independent research and collaborative work.
Year 5	Five questions per event	Best suited for years 4–5 or classes with more developed literacy and comprehension skills. Designed for students capable of independent research and collaborative work.

Challenge type		Description
A	Time challenge	Groups record start and finish times, competing with other groups to complete the challenge in the shortest time.
B	Class challenge	The class works together, completing challenges to collect coloured paw prints as a unit.

Distribution option		Description
i	One to five	Distribute the first event of the biosecurity challenge to each group. As students complete each event, a new event is collected until all five events have been completed.
ii	Random	Assign each group a randomly selected event page. As students complete each event, a new event is collected until all five events have been completed.
iii	All five	Provide each group with all five event pages. Groups complete all events in any order until all five events have been completed.

4. Project or distribute the introductory page of **Worksheet 3a – Biosecurity challenge** for students to observe. As a class, read the instructions detailing the different events that groups will complete:

    Event 1   **Rapid response multiple choice quiz.** Quick-fire questions to kickstart your adventure, challenging your knowledge and speed.

    Event 2   **Teamwork trek.** Work together to navigate through complex problems that test both your teamwork and biosecurity understanding.

    Event 3   **True or false trivia.** Sharpen your accuracy with rapid true or false decisions that require keen judgement.

    Event 4   **Problem-solving puzzle.** Engage in a series of diverse challenges that demand strategic thinking and effective communication.

    Event 5   **Research raid.** Uncover essential information to improve our defences.

5. Answer any questions from students to ensure clarity and understanding of the tasks.

6. Distribute **Worksheet 3b – Biosecurity challenge answer sheet** to each group.

   Note: ensure students have access to digital devices, paper and rulers to complete Event 5: Research raid.

7. Encourage students to collaborate and share ideas openly while solving the event questions presented on the worksheets. If groups are working on one event at a time (distribution option i or ii), they should return the completed questions to a central area and collect the next set of event questions until all events are complete. Ensure that the groups collect all five coloured paw prints.

8. At the end of the challenge, provide groups with examples of suggested responses, discuss any questions, and if applicable, recognise a winning group based on time (challenge type A) or performance and teamwork. **Answers page 12**

Answers

⟩ Activity 1 – Pests, diseases and biosecurity

b)   Bio – means living, like a person, plant or animal.

Security – means to keep things safe.

Biosecurity is all about keeping living things (people, livestock, pets, animals, plants, and crops for food and fibre) safe from harmful pests and diseases. Biosecurity involves measures to prevent the entry and spread of pests and diseases into Australia.

Worksheet 1c – Sentences: pests, diseases and biosecurity

1.   living thing
2.   stink
3.   biosecurity
4.   luggage
5.   pests; diseases
6.   Government
7.   Indigenous; Country
8.   penalty
9.   dogs

⟩ Activity 2 – How do people protect Australia?

Worksheet 2a – Stimulus

For a biosecurity scientist using a microscope, this piece of technology is important in several ways to help protect Australia.

Detection of pathogens: microscopes allow scientists to closely examine samples for the presence of pathogens, including bacteria, viruses and fungi. This early detection is key in preventing the spread of diseases that could impact public health, agriculture and local ecosystems.

Research and identification: by using a microscope, scientists can identify and differentiate between various microorganisms. This helps understand how they operate, their lifecycle and how they can be controlled or eradicated, which is essential for developing effective biosecurity measures.

Monitoring and surveillance: regular use of microscopes enables ongoing monitoring of disease agents in different environments, ensuring that any changes in their presence or behaviour are quickly noticed and can be acted upon swiftly to prevent outbreaks.

The person likely using this microscope in the context of biosecurity could be:

- A biosecurity officer: specialised in identifying and managing biological threats.
- A scientist or researcher: focused on studying pathogens that could threaten local agriculture or ecosystems.
- A government or health official: involved in ensuring the safety and health of the public and compliance with biosecurity regulations.

Worksheet 2b – Role-play: how do people protect Australia?

1. Answers will depend on individual student responses.

2. Answers will depend on individual student responses.

3. Answers could include:

   - Producer (meeting chair): 'How do you plan and organise big meetings like this one to discuss plant problems?'
   - Government official: 'What do you do to stop harmful threats from coming into our country?'
   - Scientist: 'What tools do you use to find out if a threat is harmful to our environment?'
   - Biosecurity officer: 'What's a day in your job like when you find a harmful threat?'
   - Biosecurity detector dog handler: 'What special training does your dog need to help find harmful things?'
   - Member of the general public: 'What's the best way I can help with Australia's biosecurity?'

4. If these stakeholders did not work as a team, managing biosecurity threats would be less effective. Without collaboration, harmful plants, pests or diseases could spread more rapidly, leading to significant damage to local ecosystems, agriculture and public health. Coordination ensures that threats are addressed quickly and efficiently, preventing wider ecological and economic impacts.

5. It is likely becoming harder to keep threats out of Australia due to increased global travel and trade, which facilitates the movement of invasive species and pathogens. To find out if this is truly the case, you could look at recent data and reports from the Australian Government, especially the Department of Agriculture, Fisheries and Forestry, which monitors and manages biosecurity risks. Researching academic studies on biosecurity trends and speaking with experts in the field would also provide valuable insights.

6. Australia is free of many pests and diseases found in other countries largely due to its strict and comprehensive biosecurity measures. Its geographic isolation also helps as it is a natural barrier, reducing accidental introductions. Australia implements rigorous quarantine procedures and has robust laws that regulate the import of animals, plants and other goods, effectively minimising the entry and spread of foreign pests and diseases.

⊙ Activity 3 – Biosecurity challenge

Event 1: Rapid response multiple choice quiz

Question 1: B

Question 2: B

Question 3: A

Event 2: Teamwork trek

Suggested answers could include:

Obstacle 1

Damaging crops

These pests might start eating the plants we grow for food, like vegetables and fruits. This means there would be less food for us to eat and for the stores to sell.

Spreading diseases

Just as people can catch colds from each other, plants can get sick too if they catch diseases from these pests. Unhealthy plants don't grow well, and that means they can't produce quality fruits or vegetables.

Costing farmers money

Farmers might have to spend a lot of money to fight these pests and diseases to save their crops. This could make the food more expensive for everyone to buy because the farmers need to cover their costs.

Obstacle 2

Checking animals carefully

Before any animals come into Australia, especially during big international events like the Olympics, we can have doctors for animals (called veterinarians) that check them carefully to make sure they are not sick. This can help stop sick animals from bringing diseases into the country.

Keeping sick animals alone

If any animals are found to be sick, we can keep them away from healthy animals. This is called quarantine. It helps stop the disease from spreading to other animals and making them sick too.

Teaching people to be careful

We can teach people who work with or near animals how to be extra careful not to spread pathogens. They can learn how to clean their hands and tools properly and how to spot signs of sickness in animals quickly.

Obstacle 3

Answers will vary for this activity.

Event 3: True or false trivia

Question 1: True

Question 2: True

Question 3: False

Event 4: Problem-solving puzzle

Problem 1

1. Should
2. Should
3. Should
4. Should not
5. Should not
6. Should not

Problem 2

Answers will vary but could include:

1. **Gloves**

   Protect the hands of cleaning and maintenance staff, allowing them to handle waste and potentially contaminated items safely. This helps prevent the direct contact and transmission of pathogens, enhancing the safety and hygiene of the cleanup process.

2. **Bin systems**

   Encourage attendees to dispose of their waste properly. Placing clearly labelled bins (recyclable, compostable, non-recyclable) throughout the venue facilitates waste segregation and reduces the likelihood of cross-contamination and overflow (potentially encouraging pests), keeping the venue cleaner and more sanitary.

3. **Rubbish trucks**

   Essential for the efficient removal of accumulated waste from the venue. Regularly scheduled waste collection by these trucks ensures that waste does not build up at the venue, which could otherwise lead to unsanitary conditions and attract pests.

Event 5: Research raid

Task 1

Designer

Baron Pierre de Coubertin, who founded the modern Olympic Games, also designed the rings.

Representation

Each of the five interlocking rings is coloured differently (blue, yellow, black, green and red) on a white background. These colours were chosen because at least one colour appeared on the flag of every country in the world at that time. The interlocking nature of the rings symbolises the coming together of athletes from across the world to compete in the Olympic Games, promoting a spirit of global unity and friendship.

Task 2

Students model the organism, for example, by using a ruler to measure paper/playdough and creating a shield-shaped body for the brown marmorated stink bug model, ensuring it measures between 1.5 cm and 1.7 cm in length.

This organism is so small that it could easily find its way into Australia without special detection strategies.

Brown marmorated stink bug

Image: © Department of Agriculture, Fisheries and Forestry

References

⟩ Activity 1

DAFF 2023, *Australia's biosecurity*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2024, *Be a Junior Biosecurity Officer*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

Department of Agriculture 2019, *Our biosecurity detector dogs safeguarding Australia [YouTube]*, Canberra, accessed 21 August 2024.

⟩ Activity 2

DAFF 2024, *Become a biosecurity officer*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

Department of Agriculture and Water Resources 2019, *Country Handle with Care – Episode 6 Protecting Country [YouTube]*, Canberra, accessed 21 August 2024.

⟩ Activity 3

DAFF 2022, *Brown marmorated stink bug*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2023, *Xylella and exotic vectors*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2024a, *Catriona Rowntree – Travellers and Tourists*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2024b, *You can be a Biosecurity Champion too!*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

Other resources

DAFF 2023a, *Biosecurity Innovation Program*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2023b, *Biosecurity matters*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2023c, *Country Handle with Care – Costa and dirtgirl Tackle Biosecurity*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2023d, *Innovation Pilots Initiative*, Department of Agriculture, Fisheries and Forestry, accessed 21 August 2024.

DAFF 2023e, *Pests, diseases and weeds*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

DAFF 2024, *Sending or ordering goods online from outside Australia*, Department of Agriculture, Fisheries and Forestry, Canberra, accessed 21 August 2024.

Department of Agriculture and Water Resources 2017, *Frontline – Indigenous Biosecurity Rangers [YouTube]*, Canberra, accessed 21 August 2024.

Department of Agriculture, Water and the Environment 2019, *Australia's National Priority Plant Pests (NPPP) playing cards: Beastie the Bug and novel coronavirus 2019 version [PDF 2040KB]*, accessed 21 August 2024.

![Australian Government, Department of Agriculture, Fisheries and Forestry crest]

Australian Government

Department of Agriculture, Fisheries and Forestry

Biosecurity champions

Student activities – Year 3

JUNIOR BIOSECURITY OFFICER

Activity 1: worksheet 1a – stimulus images
At the airport

Images: © Department of Agriculture, Fisheries and Forestry

Activity 1: worksheet 1b – fact sheet

Pests, diseases and biosecurity

What is a pest?

A pest is an unwanted living thing that can damage plants, animals or people and spread diseases. Cane toads, red imported fire ants and brown marmorated stink bugs are pests.
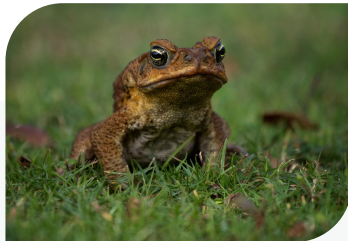
Cane toad

Red imported fire ant

Brown marmorated stink bug
Image: © Department of Agriculture, Fisheries and Forestry

What is a disease?

A disease causes a living thing to become unwell. Diseases are caused by bacteria, fungi or viruses, which we call pathogens.

Lumpy skin disease, *Xylella fastidiosa* (pronounced zy-LEL-lah fas-tid-ee-OH-sah) and citrus canker are diseases.

Citrus canker

Xylella fastidiosa infected leaves
Image: © John Hartman, University of Kentucky, bugwood.org

How can we protect Australia?

Australia does not have many of the world's most damaging plant and animal pests and diseases.

We are trying to keep out pests and diseases that are not native to Australia. If they come into our country, they could quickly become a big problem, damaging our environment, harming our native plants and animals and destroying the plants we use to produce food and fibre. Some pests and diseases can also affect humans and make them sick.

Australia's biosecurity system helps protect us from unwanted pests and diseases.

Biosecurity involves careful inspection of:

- luggage
- mail
- cargo
- imported goods

checking for any high-risk or prohibited items such as seeds, plants, wood, meat, fruit and vegetables that might contain pests and diseases that Australia is trying to keep out.

Biosecurity detector dogs and technology such as X-ray machines are used to detect many items that may contain pests and diseases. Biosecurity officers can then inspect these items.

Images: © Department of Agriculture, Fisheries and Forestry

There are rules about what can be brought into Australia. You must declare (tell someone about) food, plant and animal products as you enter Australia from overseas and on mail parcels.

At airports and cruise terminals, special bins are provided to dispose of food and other biosecurity risk items.

There are penalties for those who do the wrong thing and don't follow the rules when travelling or ordering goods online.

The Australian Government works with other countries to manage pests and diseases before they arrive in Australia.

Images: © Department of Agriculture, Fisheries and Forestry

Who is in charge of biosecurity?

The Department of Agriculture, Fisheries and Forestry (DAFF) is the Australian Government department that manages biosecurity in Australia.

Many others, including Indigenous rangers, play a crucial role in protecting and taking care of Country. They help to take care of Country by managing feral animals, weeds, and fire and keeping a Top Watch! across northern Australia for pests and signs of diseases.

In fact, we all have a role to play in Australia's biosecurity, including you!

Images: © Department of Agriculture, Fisheries and Forestry

Activity 1: worksheet 1c – sentences
Pests, diseases and biosecurity

Read the sentences and fill in the blank spaces using the words below.

diseases   pests   Indigenous   dogs   luggage   Government

penalty   Country   biosecurity   stink   living thing

1. A pest is an unwanted _ _ _ _ _ _ _   _ _ _ _ _ _
   that can damage plants, animals or people, and spread diseases.

2. This pest is a brown marmorated _ _ _ _ _ _ bug. It is a pest that Australia
   is trying to keep out.

3. Australia's _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ system helps protect us from
   unwanted pests and diseases.
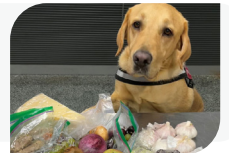
4. Biosecurity involves careful inspection of _ _ _ _ _ _ _ _ _ , mail, cargo
   and imported goods.

5. Biosecurity officers check for any high-risk or prohibited items such as seeds,
   plants, wood, meat, fruit and vegetables that might contain _ _ _ _ _ _
   and _ _ _ _ _ _ _ _ _ _ that Australia is trying to keep out.

6. The Australian _ _ _ _ _ _ _ _ _ _ _ _ makes the rules about biosecurity
   and what is and is not allowed into Australia.

7. _ _ _ _ _ _ _ _ _ _ _ _ _ rangers help to take care of _ _ _ _ _ _ _ _ _ .
   They help protect Australia from biosecurity threats.

8. If people do the wrong thing and don't follow Australia's biosecurity rules they
   may have to pay a _ _ _ _ _ _ _ _ _ .

9. X-ray machines and detector _ _ _ _ _ are used to detect items that may
   contain pests and diseases. Biosecurity officers can then inspect these items.

Images: © Department of Agriculture, Fisheries and Forestry

❯ Activity 2: worksheet 2a – stimulus

How is this technology used to protect Australia?

Who do you think is using this technology?

①

Activity 2: worksheet 2b – role-play

How do people protect Australia?

Role-play activity

Instructions

- You are going to act out a role-play that shows students how different people can keep Australia safe from biosecurity threats.
- Pick a role to play and highlight (colour in) the parts in the script that you are going to say.
- Dress up or wear a badge to show who you are.
- Perform the role-play.
- Talk about the questions below with your class.

Setting

A primary school classroom decorated with plants, animals and Australian landscape posters. A small stage or chairs are set up where the stakeholders (people involved in the area of biosecurity) will speak to a group of Year 3 students.

Characters and outfit suggestions

- **Chairperson** – wearing a polo shirt and trousers, with a badge that reads 'Chairperson.'
- **Government official** – dressed in a business shirt and trousers with a name tag.
- **Scientist** – wearing a white lab coat, glasses and carrying a clipboard.
- **Biosecurity officer** – wearing a polo shirt with a badge.
- **Biosecurity detector dog handler** – dressed in a comfortable jacket and jeans, with a trained dog (toy dog) by their side.
- **Member of the general public** – casual dress, with a 'Community member' badge.

Role-play script

Chairperson: 'Good morning class! Today, special guests who help keep Australia safe in very special ways are here to tell us about their important roles. Let's listen and learn!'

Government official: 'Hello, everyone! I work for the Government. My job is to manage biosecurity risks to Australia to keep our farms, animals, parks and pets safe from things that can make them sick. I make rules to help keep out exotic pests and diseases. Can you think of some examples of these rules?'
(waits for responses).

Scientist: 'Hi, young scientists! I work in a lab studying plants, animals and microorganisms. I use my microscope to look very closely at tiny things we can't see with just our eyes. What tiny living things do you think I might look at?'
(waits for responses).

Biosecurity officer: 'Hi kids! I work in many places, including airports, seaports, international mail centres and the Post Entry Quarantine facility. Did you know that Australia is very lucky to have Indigenous rangers who help to take care of the Country by managing feral animals, weeds and fire? They are the Traditional Custodians of the lands and waters and play a very important role in Australia's biosecurity. I work closely with Indigenous rangers to manage biosecurity threats to Australia.'

Biosecurity detector dog handler: 'Hey there! I work with my dog here, who has a super nose. He sniffs out anything unusual that shouldn't be there. This helps us keep plants and animals safe. You might have seen one of these special dogs if you have been in an airport before. Hands up if you have a pet dog at home? Hands up if you have seen a detector dog in real life?'

Member of the general public: 'Hello! I live in your community, just like you. Before I buy things online, I make sure that the items I want to buy are allowed into Australia. I also think really carefully when I travel and when I am packing my bags to come back to Australia. I always make sure I declare any food, plant or animal products that I am bringing back into Australia.'

Chairperson: 'Isn't it amazing how everyone works together? Each of you can be a biosecurity helper too, by keeping a look out for biosecurity threats!'

Government official: 'Exactly! And remember, if you ever see a strange plant or animal, tell an adult. That way, we can take care of it fast. How do you think a plant might look if it has a pest or disease?' *(waits for responses).*

Scientist: 'Don't forget, science is not just in the lab. You can be a scientist in your backyard by watching and noting what happens around you. What things do you think that you could look for?' *(waits for responses).*

Biosecurity officer: 'Right, and always be curious! Ask questions about the nature around you and learn how everything lives together. Don't forget to follow the rules when you travel back to Australia and teach your families how to do this if they are unsure. What is one rule you know about that helps to protect Australia?' *(waits for responses).*

Biosecurity detector dog handler: 'My dog and I are always on the lookout. You can be too! Keep your playgrounds clean and listen to the nature around you—it has a lot to say!'

Member of the general public: 'Yes, and talk to your families about what you learned today. Sharing knowledge is a great way to help protect our community.'

Chairperson: 'Thank you, everyone, for coming to our careers day! Let's give our guests a big round of applause for sharing their important work with us. Remember, you can be heroes for our environment too!'

Role-play activity

Turn and talk questions

1 Do you think that one of these jobs protects Australia the most?

Which one and why?

2 What job would you like to be in real life?

Why would you select this role?

Class questions

3 Think about a question you would like to ask each of the people who work in these jobs?

4 What do you think would happen if all these people did not work as a team?

5 Do you think that it is getting easier or harder to keep threats out of Australia? How could you find out the answer to this question?

6 Why do you think that Australia is free of many pests and diseases that are in other countries?

Activity 3: worksheet 3a
Biosecurity challenge

Calling all biosecurity champions across Australia!

Prepare yourselves for the Biosecurity challenge, a quest in which you will play detectives, scientists and guardians of our nation.

Join forces on a mission to defend Australia from unseen threats by completing biosecurity events. These threats are particularly concerning during international gatherings (like the Olympic Games and World Cup events), which can accidentally introduce harmful stowaways that can threaten our plants, animals and ecosystems.

Each event you complete earns your group a coloured paw stamp from Frankie the biosecurity detector dog. Complete all five events to become biosecurity champions.

Let the biosecurity challenge begin!

Event 1   Rapid response multiple choice quiz

Event 2   Teamwork trek

Event 3   True or false trivia

Event 4   Problem-solving puzzle

Event 5   Research raid
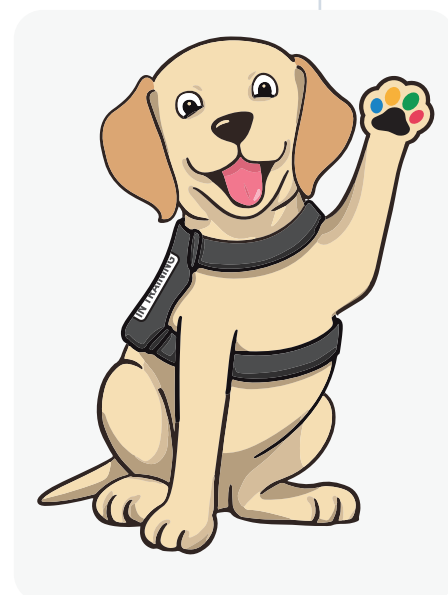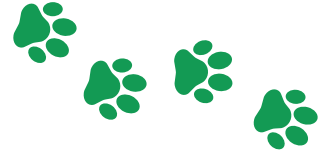
Event 1: Rapid response quiz

In your groups, answer the questions. Tick the circles as you complete each one.

Question 1: How does Australia keep out plants and animals that shouldn't be here?

a) Checking everything and everyone very carefully.

b) Inspecting luggage, mail and cargo that come from other countries.

c) Not allowing any travel or packages from other countries.

d) Closing borders during certain times of the year.

Question 2: How are biosecurity detector dogs used at airports in Australia?

a) They help control the robots at the airport.

b) They sniff out pests and things that shouldn't come into Australia.

c) They check if visitors have been where they shouldn't have been.

d) They look in people's luggage for forbidden items.

Question 3: What is a pest?

a) Something we don't want because it can damage plants, animals, or people.

b) A bacteria we don't want that causes trouble for other germs.

c) A plant that is used to make medicine and food healthier.

d) Something we don't want because it troubles native trees.

Don't forget to stamp your green paw print and keep competing until your group has all five!
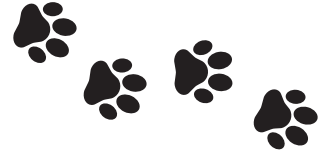
Event 2: Teamwork trek

In your groups, answer the questions. Tick the circles as you complete each one.

Obstacle 1:

Imagine that there are people coming from other countries to visit Australia. They might not know it, but they could have tiny pests and diseases on their shoes or in their bags that can hurt Australia's crops.

What are three ways these pests and diseases could cause problems for our food during a big international event?

Obstacle 2:

Imagine that a disease that makes animals very unwell comes to Australia from another country right before a big international sporting event.

What are three steps we could take to keep Australia safe and stop the disease from spreading?

Obstacle 3:

Imagine lots of people from different countries coming to Australia for an international sporting event.

Create a slogan such as:
'Play Safe, Stay Safe: Protect Our Australian Home!'
that encourages crowds to protect Australia's animals, people and environment when visiting.

Don't forget to stamp your black paw print and keep competing until your group has all five!
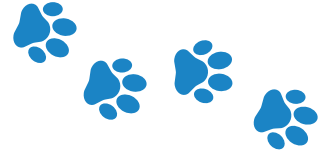
Event 3: True or false trivia

In your groups, answer the questions. Tick the circles as you complete each one.

Question 1:
A tiny mosquito carrying a virus that could make people very sick was found near a big sports event. Everyone needed to be extra careful to stay healthy.
True or false?

Question 2:
Biosecurity detector dogs can help detect hidden pests and diseases. They are an important biosecurity strategy used in Australia and, therefore, very important during international events.
True or false?

Question 3:
Before they can compete in an international sporting event, all athletes' luggage has to stay in a special place for two weeks to make sure they don't bring any pathogens (germs) that could spread pests and diseases.
True or false?

Don't forget to stamp your blue paw print and keep competing until your group has all five!

Event 4: Problem-solving puzzle

In your groups, answer the questions. Tick the circles as you complete each one.

Problem 1: You're returning to Australia from your first international holiday and are unsure if you can bring back a gift for your friend.

What should you do? Record 'should' or 'should not' on your answer sheet.

1. Check what goods you can bring into Australia on the Australian Department of Agriculture, Fisheries and Forestry website.
2. Declare if you are carrying a certain food, plant material or animal product on your Incoming Passenger Card.
3. Take the item to be assessed by a biosecurity officer when you arrive in Australia.
4. Proceed through border control without declaring the item.
5. Hide the item in your luggage.
6. Attempt to bypass biosecurity checks by using a different exit.

Problem 2: A stadium where athletes are competing has a problem getting rid of waste, leading to unsafe conditions.

Work out how each of these pictures might stop pests and diseases from spreading.

Don't forget to stamp your yellow paw print and keep competing until your group has all five!

Event 5: Research raid

In your groups, answer the questions. Tick the circles as you complete each one.

Task 1:

Australian biosecurity is especially important when hosting large international events, like the Olympic Games. Research the origin of the design of the five Olympic rings.

1.   **Who designed them?**
2.   **What does the symbol mean?**

Task 2:

This is the brown marmorated stink bug. It is a hitchhiker pest that likes to hide in dark places for the winter. This includes inside things we buy from overseas, like cars and trucks. The bugs feed on lots of different plants, causing the leaves to drop off and unripe fruit to fall to the ground. A camera has zoomed in on this stink bug. In real life, it is 17 mm long (the same as 1.7 cm).

Can everyone in your group cut out a piece of paper 17 mm long in the shape of the bug's body or create a model of it with playdough?

Without biosecurity, why would it be easy for this bug to sneak through our borders?

Brown marmorated stink bug

Image: © Department of Agriculture, Fisheries and Forestry

Don't forget to stamp your red paw print and keep competing until your group has all five!

Activity 3: worksheet 3b
Biosecurity challenge answer sheet
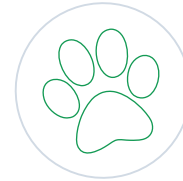
Event 1: Rapid response multiple choice quiz

Question 1: _____

Question 2: _____
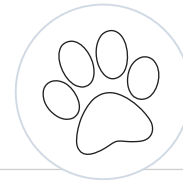
Question 3: _____

Event 2: Teamwork trek

Obstacle 1: _____

_____

_____

Obstacle 2: _____

_____

_____

_____

Obstacle 3: _____

_____

_____
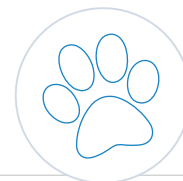
Event 3: True or false trivia

Question 1: _____

Question 2: _____

Question 3: _____

Event 4: Problem-solving puzzle

Problem 1:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____
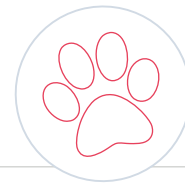
Event 5: Research raid

Research 1: _____

_____

_____

_____

_____

_____

_____

Research 2: Paste your model or a picture of your model in this space.

Acknowledgement of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.