

THE CAPE GANNET

COLONIAL LIVING AND BREEDING

LESSON PLAN 2

THEMES

1. The breeding biology of the Cape Gannet.
2. Courtship rituals.
3. Co-existence strategies for colonial living.

AIM

To discover more about Cape Gannets breeding biology, their courtship behaviour, and the strategies they have developed to deal with living in crowded colonies.

LESSON OBJECTIVES

- Learn about Cape Gannets breeding biology.
- Learn about their courtship behaviour.
- Learn how they keep relative harmony in a crowded gannet colony.

RESOURCES REQUIRED

- Infographic 3: Colonial Living
- Fact Sheet 3: Colonial Living and Breeding Biology
- Pencil and eraser
- Computer/printer/projector to show images and videos
- YouTube Video: <https://www.youtube.com/watch?v=jh4FmaBzxrU>
- Questionnaire 2 (1 per student)
- Answer Sheet 2
- Word Puzzle Sheet (1 per group)
- Word Puzzle Solution Sheet

INTRODUCTION

The Cape Gannet breeds in densely packed colonies on 6 offshore islands in South Africa and Namibia. The lack of suitable island habitats results in tightly packed breeding colonies. Gannets are monogamous and lay only one egg a year. To breed successfully, gannets have developed several courtship behaviours that help to strengthen their pair bond. Living in crowded colonies, they are fiercely territorial and aggressive, and have developed a variety of strategies and behaviours to maintain harmony and keep the peace.

KEY WORDS / PHRASES

COLONY	A community of animals of one kind living close together.
MONOGAMOUS	Having only one partner or mate at a time.
COURTSHIP	The behaviour of male birds and other animals with the purpose of attracting a mate to breed.
TERRITORY	An area which an animal defends against other animals, threats, or intruders.
TERRITORIAL	An animal that defends a territory (or area of land or sea).
MATE	The sexual partner of a bird or other animal.
INCUBATE	To sit on eggs to keep them warm and bring them to hatching.
REGURGITATE	Bring swallowed food up again into the mouth.
PREEN	When a bird tidies and cleans its feathers with its beak.
FLEDGLING	A young bird that has developed wing feathers that enables it to fly and leave the nest.
GUANO	The excrement of seabirds and bats.

LESSON PLAN 2: Approximately 60-65 minutes

	ACTIVITY	DESCRIPTION	TIME/ minutes
1	Lesson Introduction	Describe a gannet colony, where they are located and why they are so crowded.	5
2	Discussion	Ask students if they have ever visited a gannet colony. For those that have, ask them to describe what they saw to the class. For those that have not, ask them to describe what they think it would sound and smell like. Ask them why they think gannets would breed on islands in such cramped conditions.	5
3	Video	Watch video to illustrate a breeding gannet colony.	5
4	Colonial Living and Breeding Biology	Briefly describe the breeding biology of a Cape Gannet. Describe the life of gannets in a colony and the behaviours and rituals that gannets use for courtship and dealing with potential territorial disputes, referring to Infographic 3.	10
5	Discussion	Ask students why they think that gannets have developed these rituals and behaviours?	5
6	Reading and Worksheet	Ask students to read Fact Sheet 3 and answer the questions 1-11.	10
7	Evaluation	Read the answer sheet out loud and ask them to peer mark one another.	5
8	Word puzzle	Ask students to gather in groups of 2-4. Ask them to look at the word puzzle and see how many words they can find, keeping in mind that the words will be related to the subject matter that is covered in the lesson.	10
9	Evaluation	Go through the solution sheet of the puzzle, scoring each correctly identified word.	5
			60

QUESTIONNAIRE 2 (15 points)

1. What is a colony? (1)

2. What is the meaning of the word monogamous? (1)

3. Describe where Cape Gannets choose to build their nests on offshore islands. (1)

4. Name two materials that the nest is constructed out of. (2)

1:
2:

5. How many eggs does a gannet lay? How do parents protect their eggs? (2)

1:
2:

6. How do gannets find their mate in a densely crowded colony? (1)

7. Name two courtship rituals of gannets? (2)

1:
2:

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8. Why do gannets perform these rituals? (1)

9. What is a territory? (1)

10. Describe what gannets do to prevent fighting with neighbours when walking through a crowded colony. What is this gesture called? (2)

1:
2:

11. Why do gannets need a runway or elevated rock to take off from the ground? (1)

ANSWER SHEET 2 (15 points)

1. Q: What is a colony? (1)

A: A community of animals of one kind living close together.

2. Q: What is the meaning of the word *monogamous*? (1)

A: Choosing to have only one partner or mate at a time.

3. Q: Describe where on islands Cape Gannets choose to build their nests. (1)

A: They build their nests directly on the ground on a flat or gently sloping open area.

4. Q: Name two materials that the nest is constructed of? (2)

A: 1: Mud.

2: Guano.

3: Additional acceptable answers are feathers, rocks, and bones.

5. Q: How many eggs do gannets lay? How do parents protect their eggs? (2)

A: 1: One

2: They incubate the egg under their feet to keep the temperature constant and protect it from predators.

6. Q: How do gannets find their mate in a densely crowded colony. (1)

A: They give a distinctive call to their mate when flying over the colony. This call is answered by their mate with its own distinctive reply.

7. Q: Name two courtship rituals of gannets. (2)

A:

1. Fencing.

2. Allopreening.

3. Additional acceptable answers are bowing and neck rubbing.

8. Q: Why do gannets perform these rituals? (1)

A: To strengthen the relationship or bond between the pair to keep their mate.

9. Q: What is a territory? (1)

A: A territory is an area which an animal defends against other animals, threats, or intruders.

10. Q: Describe what gannets do to prevent fighting with neighbours when walking through a crowded colony? What is this gesture called? (2)

A:

1: To let other gannets know that they pose no threat, they stretch out their necks and hold their beaks up in the air.

2: Sky-pointing.

11. Q: Why do gannets need a runway to take off from the ground? (1)

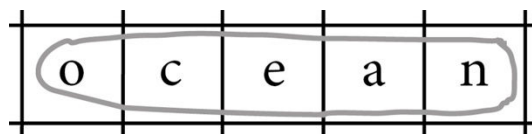
A: Their long wings mean that they need enough space to be able to run to build up sufficient speed to take off from the ground.

WORD PUZZLE (15 points)

c	o	u	r	t	s	h	i	p
w	r	p	g	c	h	i	c	k
e	i	k	a	o	b	i	r	d
g	t	m	n	l	r	c	r	m
g	u	a	n	o	e	k	w	i
m	a	t	e	n	e	s	t	p
f	l	y	t	y	d	m	c	r
y	j	u	v	e	n	i	l	e
k	w	h	a	r	m	o	n	y

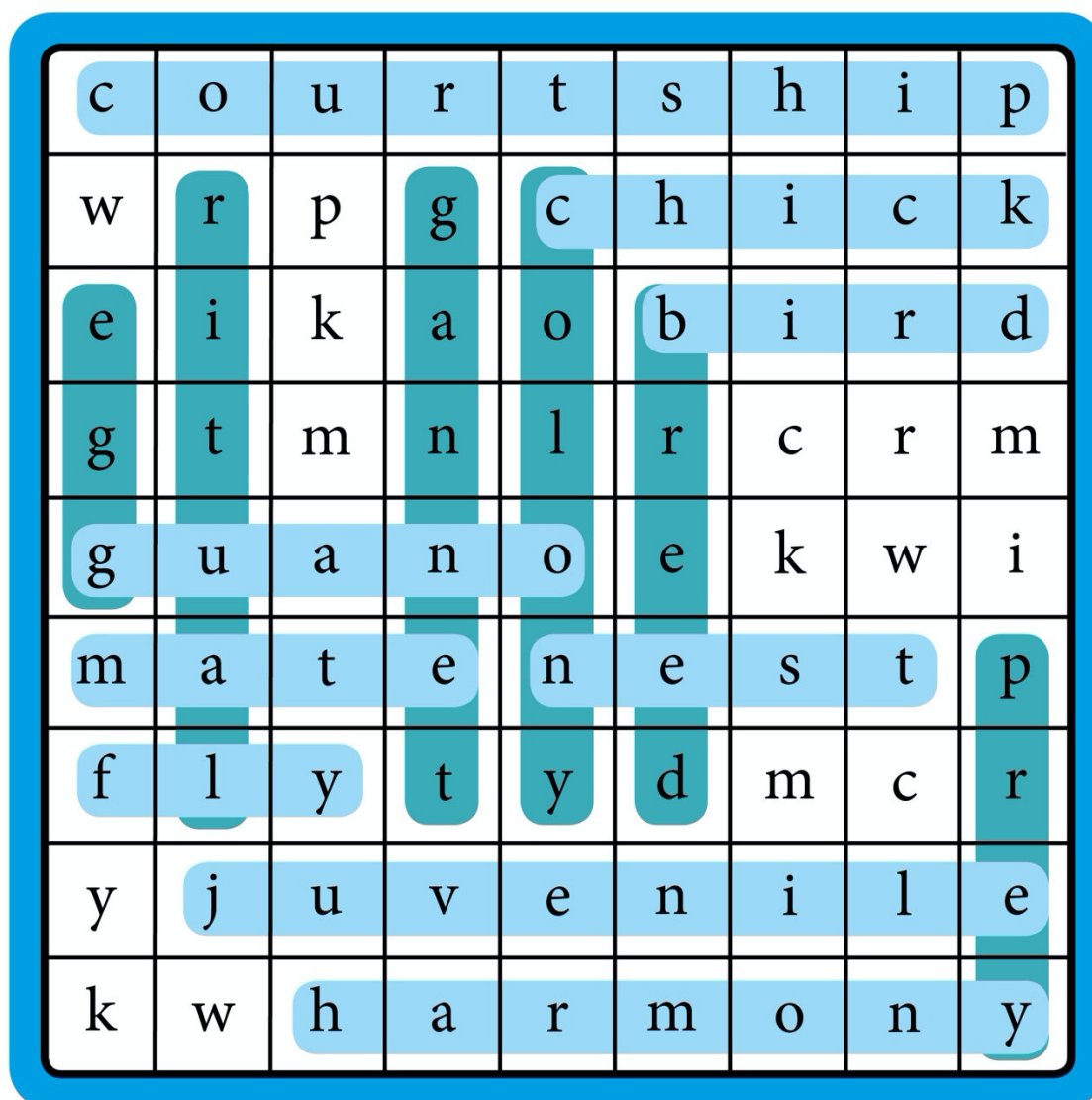
Try to find as many words as you can in this letter puzzle.
All the words will have something to do with gannets, their breeding biology
and living in a colony.

Circle each word that you find using a pencil just like this:



ocean

WORD PUZZLE SOLUTION (15 points)



ACROSS	DOWN
courtship	egg
chick	ritual
bird	gannet
guano	colony
mate	breed
nest	prey
fly	
juvenile	
harmony	