

# SCIENCE OF THE SURF QUIZ

## How safe are you in the surf?

Before you look at any of the fact sheets on the website, or attend one of the SOS talks, try taking this quiz to see how much you understand about beaches and the surf. Make sure you are honest with your answers as you may be in for a shock (or a well-deserved surf)! Answer the questions, count up your points and contact Dr Rob Brander at the Science of the Surf website for an answer guide. Then you can see what type of beach goer you are!

**Teachers/Students** – try doing this quiz before and after you see the Science of the Surf!

### 1. How often do you go to the beach (pick one)?

- a) once a year = 1 point
- b) a few times each summer = 2 points
- c) a fair bit all year = 3 points
- d) all the time, I'm a surfer = 4 points

### 2. How many beaches in Australia have flags and lifeguards? (2 points)

- a) about 10% of them (1 in 10)

### 3. When you go to the beach, how often do you swim between the flags (pick one) :

- a) what are the flags? = 0 points
- b) never = 1 point
- c) some of the time = 2 points
- d) always = 3 points

### 4. What is the difference between wind and swell waves? (4 points)

Wind wave are formed locally by wind and storms and are very choppy and messy (2 marks)

Swell waves are wind waves that have travelled a long way and have sorted themselves into long, clean waves (2 marks)

### 5. Name the 3 types of breaking waves shown in the pictures below: (3 points)

- i) Surging*
  - ii) Plunging*
  - iii) Spilling*
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**6. What is the most dangerous type of breaking wave and why? (4 points)**

Plunging waves are because they break suddenly in shallow water with a lot of energy and can throw you hard onto the beach, sandbar or rocks. You should never bodysurf on a plunging wave

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**7. Why do some waves break by plunging and others by spilling? (4 points)**

It depends on the shape of the bottom. Plunging waves break when the wave goes from deep to shallow water quickly and spilling waves happen when the beach is flat and gentle.

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**8. What is the safest way to bodysurf? (2 points)**

- a) with both arms held in front of you

**9. Why are rock platforms dangerous? (2 points)**

They are very slippery and is easy to fall in the water but very difficult to get back out because of the wave reflection off the rocks

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**10. What is a rip current and why do they form? (4 points)**

Rips are strong, narrow currents that flow seaward and are like “rivers of the sea”. They carry water offshore from the beach and they form because the water brought to the beach by breaking waves has to get back seaward somehow. They normally sit in deep channels between shallow sandbars.

**11. List 3 things you should look for when trying to spot a rip current: (3 points)**

- (i) \_\_\_\_\_ dark gaps in the water \_\_\_\_\_
- (ii) \_\_\_\_\_ choppy and disturbed surface water \_\_\_\_\_
- (iii) \_\_\_\_\_ things like sand, seaweed and people moving seawards \_\_\_\_\_

**12. List 3 things you should do if you get caught in a rip current: (3 points)**

(i) \_\_don't panic; relax and put your arm up to signal lifeguards\_\_\_\_

(ii) \_\_swim to the side instead of against the rip\_\_\_\_\_

(iii) \_\_let the rip take you and swim towards the breaking waves which will bring you back; stay afloat by floating on your back

13. All beaches in Australia are the same (2 points)

False

14. Beaches with bars and rips change all the time (2 points)

True

15. Can you spot the rip? Draw arrows to show the rip current(s): (4 points)



16. How many people a year drown on our beaches in an average year? (2 points)

c) about 60

17. What's the main cause of the over 12,000 rescues that are performed by lifeguards every summer? (2 points)

d) all of the above

**How do you rate?**

- 45-50 Surf expert!
- 40-45 You'd be safe at most beaches
- 30-40 You know a bit, but should know more
- 20-30 Better swim between the flags!
- 10-20 Hope you are supervised when you go swimming
- 0-10 Don't go in the water!

**For a complete answer guide, please contact Dr Rob Brander**

Science of the Surf

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