

You should spend about 20 minutes on **Questions 1-13**, which are based on Reading Passage 1 below.

Phi Phi Island Resort

in Thailand, between the large island of Phuket and the west Strait of Malacca coast of the mainland. Phi Phi consists of six small islands 46km south of Phuket. Fine sandy beaches give way to soaring limestone cliffs to form spectacular scenery. Add crystal clear water, a refreshing lack of roads, plus a laid-back lifestyle, and it's easy to see why Phi Phi is one of southern Thailand's most popular destinations.

The islands are administratively part of Krabi province. Ko Phi Phi is the largest island of the group, and is the most populated island of the group, although the beaches of the second largest island, Ko Phi Phi Leh are visited by many people as well. The rest of the islands in the group, including Bida Nok, Bida Noi, and Bamboo Island are not much more than large limestone rocks jutting out of the sea. The Islands are reachable by speedboats or Long-tail boats most often from Krabi Town or from various piers in Phuket Province.

The islands came to worldwide prominence when Ko Phi Phi was used as a location for the 2000 British-American film *The Beach*. This attracted criticism, with claims that the film company had damaged the island's environment, since the producers bulldozed beach areas and planted palm trees to make it resemble description in the book, an accusation the film's makers contest. An increase in tourism was attributed to the film's release, which resulted in increases in waste on the Islands, and more developments in and around the Phi Phi Don Village.

Unlike its larger brother Ko Phi Phi, Phi Phi Leh is a virgin island - it is almost untouched by human civilization. Surrounded by sheer limestone walls dotted with caves and passages the island's shallow blue-green lagoons and coral as two magnificent beaches, Loh Samah and Maya Bay.

The climate on Phi Phi Leh island is influenced by tropical monsoon winds. There are two seasons: the rainy season from May till December and the hot season from January till April. Average temperature ranges between 17 37 degrees Celsius. Average rainfall per year is about 2,231 millimetres, wettest in July and driest in February.

The "Phi Phi Island Resort" is located in Phi Phi Leh island

gardens are a snorkeler's paradise. The island also h

-friendly hotel that aims at providing excellent service without hurting the local environment. This dreamy lodging in Thailand is as environmentally friendly as it gets. The building itself is built with natural materials, such as local stone and wood. Moreover, all utilities (such as cutlery, hygiene items, towels, kitchen utensils) are made of bio-degradable materials.

The pool is created in the local stone quarry, so that the harmony of local landscape was not infringed. Since the water in the pool is replete with natural salts and minerals, there is no need in further disinfection with chlorinated compounds and the pool is absolutely chemical-free.

The hotel provides soaps, gels and creams, which are all natural and organic. Waste is recycled to the garden via a bio-cycle septic system, and "Phi Phi Island Resort" uses hydro-electricity from a Pelton wheel and solar power.

The "Phi Phi Island Resort" is an eco

The restaurant values locally sourced products. That's why only locally grown vegetables and fruits along with natural sea products are served. The resort ensures that fishing and croppage don't contravene the local equilibrium of the island.

Diving and snorkeling at Phi Phi Leh Island are excellent. Many dive companies offer all-inclusive trips only in this location. And other little secluded islands are accessible from "Phi Phi Island Resort" by long-tail boats. Visitors can take advantage of the free bike rentals, free shuttle service in an electric vehicle and even green spa, with all organic products.

On the other hand, this beautiful resort combines the seclusion much sought after in Thailand with refinement of a 4.5 star resort. Privacy is certain on 70 tranquil acres of swaying coconut palms, fragrant gardens, and a half-mile of sparkling shore overlooking the crystal Andaman Sea. Spacious and secluded bungalows conform comfortably to the

natural surroundings, welcoming stunning coastal vistas and cool sea breezes. Stylish furnishings, gracious hospitality and a private 800 metres stretch of pristine white sand beach lapped by the turquoise waters of the Andaman Sea create an idyllic setting for a green and calm holiday.

Questions 1-8

Do the following statements agree with the information in the IELTS reading text?

In boxes **1-8** on your answer sheet, write

TRUE if the statement agrees with the information

FALSE if the statement contradicts the information

NOT GIVEN if there is no information on this

- (A) Phi Phi is located 46km south of Phuket.
- (B) Ko Phi Phi is the largest, though not the most populated island of the group.
- (C) Islands gained their popularity after Ko Phi Phi was used for a famous film.
- (D) The increase in tourism had a negative effect on the Ko Phi Phi island.
- (E) Unlike its larger brother Phi Phi Leh, Ko Phi Phi is a virgin island.
- (F) There are two seasons on the Phi Phi Leh island: rainy and hot.
- (G) July is the hottest month on the Phi Phi Leh.

8. The "Phi Phi Island Resort" is very environmentally friendly.

Questions 9-13

Complete the sentences below.

Write **NO MORE THAN TWO WORDS** from the passage for each answer.

Write your answers in boxes 9-13 on your answer sheet.

9. Due to the fact that the pool is rich in natural salts and minerals, there is no need to use ... for further disinfection.

10. The "Phi Phi Island Resort" uses a bio-cycle
... to recycle waste.

11. The restaurant serves only natural ... prod
ucts.

12. Visitors can take free bike rentals, free shuttle service and even ...

13. Phi Phi Island Resort has a refinement of a 4.5 ...

READING PASSAGE 2

You should spend about 20 minutes on **Questions 14-25**, which are based on Reading Passage 2 below.

Sponging dolphins

1. In 1984, researchers spotted dolphins doing something unusual in Shark Bay, Western Australia. When the animals got hungry, they ripped a marine basket sponge from the sea floor and fitted it over their beaks like a person would fit a glove over a hand. The scientists suspected that as the dolphins foraged for fish, the sponges protected their beaks, or rostra, from the rocks and broken chunks of coral that litter the sea floor, making this behavior the first example of tool use in this species.

2. The researchers surmised that a long time ago one ingenious Shark Bay dolphin figured out that by prodding the sediments with a sponge attached to her beak, she could stir up these swim bladder-less fish without being hurt. Eventually, such technique became popular among other dolphins. But why do dolphins go to all of this trouble when they could simply snag a fish from the open sea? The answer is that the bottom-dwelling fish are a lot more nutritious. Some species also don't have swim bladders, gas chambers that help other fish control their buoyancy as they travel up and down the water column. In the Bahamas, where dolphins are also known to forage for bottom-dwelling fish, dolphins hunt partly by echolocating these bladders, which give off a strong acoustic signal. That helps the cetaceans find prey even when it's buried in sea sand. But bottom-dwelling fish, such as barred sandperch, which are favored by some Shark Bay dolphins, don't have swim bladders and so are harder to find with echolocation. The sea floor is not nearly as soft here as it is in the Bahamas, so if dolphins want to probe for these fish, they risk injuring their rostra.

3. Not every dolphin in Shark Bay hunts with sponges. "It's primarily done by females," says Janet Mann, a behavioral ecologist. She believes the female dolphins invented the method because of the "selective pressures they face while raising a calf as long as they do," about 4 to 5 years. "These clever dolphins have figured out a way to target fish that other dolphins cannot," she says, adding that even the local fishermen do not catch, or even know about, this particular species. Mann's previous research has shown that dolphin mothers pass the sponging method to their daughters and some of their sons, rare evidence of a cultural tradition in an animal other than humans. The team has documented three generations of sponging dolphins.

4. The foraging technique came to light a few decades ago - very recently in evolutionary terms - when a local fisherman spotted what looked like a strange tumour on a dolphin's nose. Researchers eventually worked out that the 'tumour' was a conically shaped sponge and it became apparent that the dolphins would spend considerable time searching for one the right shape to fit their nose. The sponge is used to scatter the sand gently on the sea floor and disturb buried fish. When a fish is spotted, the dolphin drops the sponge and gives chase. "It has been thought that behaviours which are exclusively learnt from one parent are not very stable. With our model we could now show that sponging can be a stable behaviour," said Dr Anna Kopps, a biologist at the University of New South Wales.

5. By modelling the emergence of "sponger" dolphins in a computer simulation, the team of researchers could see different scenarios in which the skill could have spread among the dolphin population over the years. They then compared the results of these simulations with field data on the genetic relationship between the spongers, to estimate the role of mothers teaching their offspring in transmitting the skill. They found that if the likelihood of a sponger's offspring learning the ability was less than certain, the dolphins that did pick up the technique needed to gain a survival advantage from the skill, in order for the ability to pass on to the next generation. The model also allowed them to attempt to calculate the date that the behaviour was likely to have originated. "The results suggested that sponging was innovated at least 120 to 180 years ago - it is only a best estimate," said Dr Kopps. Scientists discovered that although dolphins tried to teach the hunting technique to all their young, it was mainly female offspring that grasped the concept. Why male offspring rarely acquire the same skill remains unclear, though the team put forward one possible explanation: male bottlenose dolphins tend to form close bonds with other males, and such alliances aren't suited to seabed foraging, since it is a time-consuming, solitary activity.

The US scientists say discovering a new tool is a direct sign of intelligence. "There's a strong link between animals with larger brains and tool users. Bottlenose dolphins have a brain second in size only to humans," said Janet Mann, a biologist who led the research. "Dolphins are already good at catching fish so they don't need tools, but they've

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discovered this sponge makes their job easier. Working out how to use tools in a creative way like that is a hallmark of intelligence." Mann admits we still do not understand dolphins well. "It's hard to get inside their heads because their brains are constructed differently and it's very hard to analyse their language, but they do seem very intelligent," she said.

(G) Dolphins are also often seen engaging in playful behaviour and creating tools to use for entertainment. They have been observed to blow bubbles which they form into rings to play with. After creating the bubble ring, a dolphin will use

its nose and body to maintain the shape of the bubble and keep it from floating to the surface. The study provides a "better understanding of the why and how of sponging" by the Shark Bay dolphins, says Louis Herman, a cognitive psychologist. The work "adds to previously documented" examples of "innovation by this highly intelligent species." Patterson's and Mann's results also "reinforce a pattern" often seen in other tool-using animals, says Simon Reader, a behavioral biologist. "Tool use appears to be almost a last option, taken when other options fail or are unavailable," he says, noting that woodpecker finches in the Galápagos Islands "turn to tool use only in arid areas," wielding cactus spines to extract grubs from tree branches. Using tools takes time and energy, Reader says, and animals tend to rely on them only when there's a guaranteed payoff, such as turning up a fatty fish that most other dolphins (and fishermen) know nothing about.

Questions 14-20

Reading Passage 2 has seven paragraphs, A-G.

Which paragraph contains the following information?

Write the correct letter, A-G, in boxes 14-20 on your answer sheet.

15. Hallmark of intelligence
16. First example of dolphins using tools
17. Tool for entertainment
18. The reason why dolphins go through trouble of getting fish from the bottom of the ocean
19. The evidence of tradition in dolphins
20. The estimated time of sponging innovation
21. The observation of a local fisherman

Questions 21-25

Choose the correct letter, A, B, C or D.

Write the correct letter in boxes 21-25 on your answer sheet.

22. Dolphins use sponges for hunting fish because:
- they like it.
 - it helps them get fish from the bottom of the ocean.
 - it makes hunting easier.
 - it helps them to get more fish during the hunt.
23. All the following statements about dolphins are true, EXCEPT:
- Females discovered the method of hunting with sponges.
 - The sponging method is passed by female dolphins to their daughters.
 - Male dolphins never use the sponging technique.
 - Three generations of sponging dolphins have been documented.
24. Biologist Dr. Anna says that
- sponging is very dangerous for dolphins.
 - dolphins do not inherit sponging method from their parents.
- C. she has been studying dolphins for a few decades now.
D. sponging can be a stable behaviour.

(D) With the computer simulation that modeled sponging, researchers

- managed to find out approximately when sponging was originated.
- were able to predict the behaviour of dolphins.
- found out the true reason of sponging.
- discovered a new way treating dolphins

(E) According to Janet Mann

- bottlenose dolphins have brain as big as humans have.
 - we can understand dolphins well now.
 - dolphins are very intelligent.
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- all of the above.

READING PASSAGE 3

You should spend about 20 minutes on **Questions 26-40**, which are based on Reading Passage 3 below.

Toddlers Bond With Robot

31. Will the robot revolution begin in nursery school? Researchers introduced a state-of-the-art social robot into a classroom of 18- to 24-month-olds for five months as a way of studying human-robot interactions. The children not only came to accept the robot, but treated it as they would a human buddy - hugging it and helping it - a new study says. "The results imply that current robot technology is surprisingly close to achieving autonomous bonding and socialization with human toddlers," said Fumihide Tanaka, a researcher at the University of California, San Diego

32. The development of robots that interact socially with people has been difficult to achieve, experts say, partly because such interactions are hard to study. "To my knowledge, this is the first long-term study of this sort," said Ronald Arkin, a roboticist at the Georgia Institute of Technology, who was not involved with the study. "It is groundbreaking and helps to forward human-robot interaction studies significantly," he said.

33. The most successful robots so far have been storytellers, but they have only been able to hold human interest for a limited time. For the new study, researchers introduced a toddler-size humanoid robot into a classroom at a UCSD childhood education center. Initially the researchers wanted to use a 22-inch-tall model, but later they decided to use another robot of the QRIO series, the 23-inch-tall (58-centimeter-tall) machine was originally developed by Sony. Children of toddler age were chosen because they have no preconceived notions of robots, said Tanaka, the lead researcher, who also works for Sony. The researchers sent instructions about every two minutes to the robot to do things like giggle, dance, sit down, or walk in a certain direction. The 45 sessions were videotaped, and interactions between toddlers and the robot were later analyzed.

34. The results showed that the quality of those interactions improved steadily over 27 sessions. The tots began to increasingly interact with the robot and treat it more like a peer than an object during the first 11 sessions. The level of social activity increased dramatically when researchers added a new behavior to QRIO's repertoire: If a child touched the humanoid on its head, it would make a giggling noise. The interactions deteriorated quickly over the next 15 sessions, when the robot was reprogrammed to behave in a more limited, predictable manner. Finally, the human-robot relations improved in the last three sessions, after the robot had been reprogrammed to display its full range of behaviors. "Initially the children treated the robot very differently than the way they treated each other," Tanaka said. "But by the end they treated the robot as a peer rather than a toy."

(E) Early in the study some children cried when QRIO fell. But a month into the study, the toddlers helped QRIO stand

up by pushing its back or pulling its hands. "The most important aspect of interaction was touch", Tanaka said. "At first the toddlers would touch the robot on its face, but later on they would touch only on its hands and arms, like they would

with other humans". Another robotlike toy named Robby, which resembled QRIO but did not move, was used as a control toy in the study. While hugging of QRIO increased, hugging of Robby decreased throughout the study.

Furthermore, when QRIO laid down on the floor as its batteries ran down, a toddler would put a blanket over his silver-colored "friend" and say "night-night."

(F) "Our work suggests that touch integrated on the time-scale of a few minutes is a surprisingly effective index of social connectedness," Tanaka says. "Something akin to this index may be used by the human brain to evaluate its own sense of social well-being." He adds that social robots like QRIO could greatly enrich classrooms and assist teachers in early learning programs. Hiroshi Ishiguro - robotics expert at Osaka University in Japan - says, "I think this study has clearly reported the possibilities of small, almost autonomous humanoid robots for toddlers. Nowadays robots can perform a variety of functions that were thought to be incident to people only - in short time we'll have electronic baby-sitters and peer-robots in every kindergarten," said Ishiguro, who was not involved with the study but has collaborated with its authors on other projects.

changing the classroom environment," Tanaka said. However, some scientists don't share his opinion.

(G) Now this study has taken a new direction - the researchers are now developing autonomous robots for the toddler classroom. "I cannot avoid underlining how great potential it could have in educational settings assisting teachers and enri

(H) Arkin, the Georgia Tech roboticist, said he was not surprised by the affection showed by the toddlers toward the robot. "Humans have a tremendous propensity to bond with artifacts with any or all sort, whether it be a car, a doll, or a robot," he said. But he also cautioned that researchers don't yet understand the consequences of increased human-robot interaction. "Just studying how robots and humans work together can give us insight into whether this is a good thing or a bad thing for society," Arkin said. "What are the consequences of introducing a robot artifact into a cadre of children? How will that enhance, or potentially interfere with, their social development? It might make life easier for the teacher, but we really don't understand the long-term impact of having a robot as a childhood friend, do we?"

Questions 26-32

Reading Passage 3 has eight paragraphs, **A-H**.

Which paragraph contains the following information?

Write the correct letter, **A-H**, in boxes 26-32 on your answer sheet. You may use any letter more than once.

26. Changes in toddler-robot interactions quality.

27. Comparison of two different robots.

28. The fact that previous robots could maintain people's interest only for a short time.

29. The importance of touch.

30. The new direction of the study.

31. Technical parameters of the introduced robot.

32. The significance and novelty of the conducted study.

Questions 33-37

Connect each of the statements below with the name of scientist who expressed it. Answer A, B, or C to questions 33-37.

A. Fumihide Tanaka

B. Ronald Arkin

C. Hiroshi Ishiguro

33. Robots will perform duties of baby-sitters in the nearest future.

34. By the end of the study children treated the robot as a living creature rather than a toy.

35. The long-term impact of having a robot as a childhood friend can be negative.

36. The conducted study is the first major study of this sort.

37. Robots can be used in classrooms and assist teachers.

Questions 38-40

Choose the correct letter, A, B, C or D.

Write the correct letter in boxes 38-40 on your answer sheet.

38. For the study, researchers introduced a toddler-size humanoid robot that was

A. 58-inch-tall

B. 22-inch-tall

C. 23-inch-tall

D. 45-inch-tall

39. The researchers sent instructions to the robot to perform different actions EXCEPT

A. laugh

B. dance

C. sit down

D. crawl

40. The toddlers began to increasingly interact with the robot during

A. the first 11 sessions

B. the next 15 sessions

- C. the first 27 sessions
- D. the last 15 sessions