

## ***Test your permaculture knowledge!***

### **Post-course assessment**

1. Select from the statements below all those that apply to permaculture.

- A. Permaculture is an ethical design system.
- B. The terms “permanent,” “agriculture” and “culture” help explain the origin and meaning of permaculture.
- C. There are many people who consciously and unconsciously practice permaculture.
- D. Bill Mollison created the philosophy of permaculture.
- E. Ecological design, sustainable design and applied ecology are other names for permaculture.
- F. Mollison advocates observing nature and then copying the patterns that exist in nature.

2. Name the three ethics of permaculture. The three words below provide clues to the three ethics.

- A. Earth - \_\_\_\_\_
- B. People - \_\_\_\_\_
- C. Limits - \_\_\_\_\_

3. Which permaculture principles are illustrated by actions in the following scenario:

The Bennett family wanted a backyard garden. They decided to put the garden in the far corner of their backyard. Tony rented a rototiller to turn and prepare the soil for planting. He then added the composting material from the composting bin by the kitchen for fertilizer. There wasn't enough composting for the whole garden so he also bought some chemical fertilizer. Karen created the plan for the garden and decided she wanted a variety of plants that would grow under different conditions. The almanac was predicting a wet spring and a dry summer. She planted marigolds between the various types of plants to keep away the insects, create a divider between the plants and for color and beauty in the garden. In the mornings Tony would water the garden before going to work with water from the barrel by the roof that caught rain water. During the dry summer he used a sprinkler system with water from the outdoor spigot. Because there was a shortage of water from the dry weather, he was always careful not to over water the garden. By midsummer the garden was in full production and producing more tomatoes and squash than they could eat, so they took produce to work to share and gave some to their neighbors.

- A. Conservation
- B. Stacking functions
- C. Repeating functions
- D. Reciprocity
- E. Appropriate scale
- F. Diversity
- G. Give away the surplus

4. In the scenario described in Question #3 what actions were and were not appropriate according to the philosophy of permaculture?

5. The Haqski family is remodeling their home and yard to be more environmentally sustainable. They are permaculture practitioners and want to incorporate permaculture strategies and techniques into their design.

Which of the following should they include in their design?

- A. Install a full bathroom for each family member.
- B. Install awnings over the south-facing windows.
- C. Install composting toilets.
- D. Install a central air conditioning system.
- E. Install ceiling fans.
- F. Install energy efficient appliances.
- G. Extend the lawn by clearing bushes and trees next to the stream.
- H. Install a greywater system.
- I. Install a hot tub.
- J. Build a deck with pressure treated wood.

## Feedback

### Question 1

Select from the statements below all those that apply to permaculture.

- A. True – The three ethics at the core of permaculture are: Care of the earth, Care of the people and Accepting limits to population and consumption.
- B. True - The term permaculture is a contraction of the words "permanent," "agriculture," and "culture." Although the original focus of permaculture was sustainable food production, the philosophy of permaculture has expanded over time to encompass economic and social systems.
- C. True - There are many people who practice permaculture without realizing it – concerned environmentalists, organic gardeners, conservationists, land use planners, urban activists, recyclers, indigenous peoples and anyone working toward creating a sustainable human civilization. The reason for this is that the philosophy of permaculture draws on a lot of ideas and practices that have been around for a long time. And, of course, there are many permaculture practitioners who study and learn about permaculture and consciously use it to live in a more sustainable way.
- D. True – Bill Mollison created permaculture, and later he and his graduate student, David Holmgren published books about permaculture.
- E. False - Ecological design, sustainable design, and applied ecology are similar in that they also have sustainable living as their goal and look to nature as their basic model. The difference between these systems and permaculture is their scope and focus. Permaculture is a comprehensive system that can be applied to all aspects of one's life although food production remains an important focus. In addition, it is a dynamic, living philosophy which is continuing to evolve.
- F. True - Permaculture principles are derived from observing nature. They are things we observe happening in nature that we want to copy. Permaculturists observe nature and try to mimic what nature does.

## Question 2

Name the three ethics of permaculture. The three words below provide clues to the three ethics.

- A. Earth - Care of the earth
- B. People - Care of the people
- C. Limits - Accepting limits to population and consumption

## Question 3

Which permaculture principles are illustrated by actions in the scenario?

- A. Conservation  
Tony was always careful not to over water the garden.
- B. Stacking functions  
Karen planted marigold in the garden and got these yields:  
They kept insects away.  
They created a divider between plants.  
They brought beauty and color to the garden.
- C. Repeating functions  
Tony had two ways to provide water for the garden: rain water from his catchment system and water from his community household system as a backup during dry weather.
- D. Reciprocity  
Tony used decomposed kitchen scraps from his composting bin for fertilizer.
- E. Appropriate scale  
Tony and Karen created a backyard garden which was appropriate for their needs.
- F. Diversity  
Karen planted a variety of plants that would grow under different conditions – the wet spring and the dry summer.
- G. Give away the surplus  
Karen and Tony's garden was so productive that they grew more than needed. They shared the surplus with co-workers and neighbors.

## Question 4

In the scenario described in Question #3 what actions were and were not appropriate according to the philosophy of permaculture?

### ***Were appropriate:***

Tony used material from his composting bin as fertilizer in the garden.

Karen created a plan for the garden. In permaculture you observe, research and analyze your site. Part of this process is creating drawings which illustrate the placement of elements at the site. However, Karen should have spent more time analyzing her site. She could have identified the characteristics of the site, analyzed the human element, analyzed the incoming energies (sector design), and analyzed it according to zones.

Karen planted a variety of plants that would grow under different conditions for diversity.

Karen planted marigolds, and the marigolds provided several yields.

Tony watered the garden in the morning before going to work when it was cool and the water would be able to soak into the ground rather than quickly evaporate. He was also careful not to over water. This conserved water.

Tony used two methods for watering the garden. The water catchment system conserved water and the sprinkler system using household water provided a backup during dry weather.

Karen and Tony created an abundant garden and shared their abundance.

***Were not appropriate:***

Karen and Tony placed their garden in the far corner of their backyard. According to the concept of zones, the best place for their garden would have been closer to their house where it would have been more accessible. They would be visiting their garden and harvesting food frequently.

Tony used a rototiller. In permaculture you want to maintain the natural soil structure and not mix the layers of soil.

Tony added chemical fertilizer to the garden. In permaculture you avoid the use of artificial and potentially toxic substances.

**Question 5**

Which of the following should the Haqski family include in their remodeling design?

***Appropriate design choices***

- B. Install awnings over the south-facing windows.  
This would provide shade in the summer and is an energy efficient method of cooling a home.
- C. Install composting toilets.  
This would conserve water and allow the waste to be used as fertilizer.
- E. Install ceiling fans.  
This is an example of a natural cooling technique.
- H. Install a greywater system.  
This would allow relatively clean household waste water to be reused to water the garden.

***Inappropriate design choices***

- A. Install a full bathroom for each family member.  
This would not be a good use of resources. The third permaculture ethic asks us to accept limits to our consumption.
- G. Extend the lawn by clearing bushes and trees next to the stream.  
This would damage the stream by removing its riparian buffer. The buffer helps prevent erosion, reduce flooding and filter runoff. Lawns should be minimized because they have a low yield compared to forests and gardens and require an expenditure of time and energy to maintain.
- J. Build a deck with pressure treated wood.  
Pressure treated wood should not be used because it is toxic. A deck that is built with natural wood or recycled materials and gets frequent use may be appropriate. However, decks are often neglected and become examples of excessive and needless consumption.

***May be appropriate***

D. Install a central air conditioning system.

It's preferable to use natural cooling techniques. However, in some circumstances (hot climates, health reasons) this may be an appropriate choice.

F. Install energy efficient appliances.

It's preferable to use energy efficient appliances to conserve energy. However, if their old appliances are still usable, it may be better to continue using them rather than sending them to a landfill and replacing them with a new product.

I. Install a hot tub.

Hot tubs may be costly, require chemical treatment, and consume excessive energy. Yet, they can have many benefits such as relaxation, healing and social bonding. There may be ways to integrate them into a design so that they have a reciprocal relationship with other elements in the system.