

## KETCHUP

The sauce that is today called ketchup (or catsup) in Western cultures is a tomato-based sauce that is quite distinct from Eastern **ancestors** of this product. A sauce called ke-tjap was in use in China at least as early as the 17th century, but the Chinese version of the sauce was made of pickled fish, shellfish, and spices. The popularity of this Chinese sauce spread to Singapore and Malaysia, where it was called kechap. The Indonesian ketjab derives its name from the same source of the Malaysian sauce but is made from very different ingredients. The Indonesian ketjab is made by cooking black soy beans, fermenting them, placing them in a salt brine for at least a week, cooking the resulting solution further, and sweetening it heavily; this process results in a dark, thick and sweet variation of soy sauce.

Early in the 18th century, sailors from the British navy **came across** this exotic sauce on voyages to Malaysia and Singapore and brought samples of it back to England on return voyages. English chefs tried to recreate the sauce but were unable to do exactly because key ingredients were unknown or unavailable in England; chefs ended up substituting ingredients such as mushrooms and walnuts in an attempt to recreate the special taste of the original Asian sauce. Variations of this sauce became quite the rage in the 18th century England, appearing in a number of recipe books and features as an exotic addition to menus from the period.

**The English version** did not contain tomatoes, and it was not until the end of the 18th century that tomatoes became a main ingredients in the ketchup of the United States. It is quite notable that tomatoes were added to the sauce and that tomatoes had previously been considered quite dangerous to health. That tomato had been cultivated by the Aztecs, who had called it tomato; however, early botanists had recognized that tomato was a member of the Solanecaea family, which does include a number of poisonous plant. The leaves of the tomato plant are poisonous, though of course the fruit is not.

(A) Thomas Jefferson, who cultivated the tomato in his gardens at Monticello and served dishes containing tomatoes at lavish feasts, often receive credit for changing the reputation of the tomato.

(B) Soon after Jefferso had introduced the tomato to American society, recipes combining the new fashionabe tomato with the equally fashionable and exotic sauce known as ketchap began to appear.

(C) By the middle of the 19th century, both of the tomato and tomato ketchup were **stables** of the American kitchen.

(D) Tomato ketchup, popular though it was, was quite time-consuming to prepare. In 1876, the first mass-produced tomato ketchup, a product of German-American Henry Heinz, went on sale and chieved immediate success. From tomato ketchup, Heinz branched out into a number of other products, including various sauces, pickles, and relishes.

21. The word "**ancestors**" in paragraph 1 is closest in meaning to:

- A. predecessors
- B. descendents
- C. creators
- D. ingredients

22. It is not stated in paragraph 1 that

- A. the Chinese sauce was in existence in the 17th century
- B. the Malaysian sauce was similar to the Chinese sauce
- C. the Chinese sauce was made from seafood and species
- D. the Indonesian sauce was similar to the Chinese sauce

23. The word **—it!** in paragraph 1 refers to

- A. a salt brine
- B. a week
- C. the resulting solution
- D. this process

24. The expression "**came across**" in paragraph 2 could be best replaced by

- A. traversed
- B. discovered
- C. transported
- D. described

25. What ingredient is not used to make Indonesian sauce?

- A. soy beans
- B. sugar
- C. salt
- D. mushrooms

26. It can be inferred from the second paragraph that mushrooms and walnuts were

- A. difficult to find in England
- B. not part of the original Asian recipe
- C. not native to England
- D. transported to England to Asia

27. The phrase **—became quite the rage!** in paragraph 2 means

- A. became an anger
- B. became strange
- C. became popular
- D. became a protest

28. The author mentions "**the English version**" at the beginning of the third paragraph in order to

- A. indicate what will be discussed in the coming paragraph
- B. explain why tomatoes were considered dangerous
- C. make a reference to the topic of the previous paragraph
- D. provide an example of a sauce using tomatoes

29. According to the paragraph 3, the tomato plant
- A. was considered poisonous plants
  - B. is related to some poisonous plants
  - C. has edible leaves
  - D. has fruit that is sometimes quite poisonous
30. Where in paragraph 4 can the following sentence go in?
- "It turned from very bad to exceedingly good"**
- A. at the beginning of the paragraph 4
  - B. before the sentence — Soon after Jefferson ...
  - C. before the sentence — By the middle of the 19th century ...
  - D. at the end of the paragraph 4

#### PASSAGE 4 – Questions 31-40

##### FOOD CHAINS

Originally, the idea of a "food chain" was developed by a scientist named Charles Elton in 1927. Elton described a general food chain in terms of where plants and animals get their energy. He started with plants, which get energy from sunlight. Next, plant-eating animals get their energy from eating other plants. At the next level of the chain, meat-eating animals get their energy from eating other animals. Elton's idea of a "chain" related to the concept that all these animals are linked together by what they eat. Anything that affects one part of the chain affects all of the other parts in the chain. The first part of the chain, plants, is called the producer. All of the parts of the chain above the producer are called consumers.

Here is a simple example of a food chain. Grass uses sunlight to produce sugars and proteins so that it can grow. Rabbits eat the grass and get energy from it. Foxes eat rabbits and get energy from them. Foxes are at the "top" of this food chain because nothing eats them. Now imagine that a farmer plows up the field of grass where the rabbits usually eat. Some of the rabbits might die. Others will probably move to another location to find food. In either case, there are fewer rabbits. This means less food for the foxes. Thus, the foxes **depend on** the grass in a way, even though they don't eat the grass directly.

A. In the natural world, of course, there are no simple food chains like this. Rabbits eat lots of plants besides grass. B. Foxes eat lots of things besides rabbits. C. Additionally, there are lots of other things in nature that eat grass and rabbits! D.

However, that does not mean the idea of a simple food chain is not important. Food chains are still a useful concept to consider, even if they are an oversimplification of reality. Take, for example, the case of DDT's effect on animals. In the 1960s, DDT, a common pesticide at that time, was used a lot by farmers. Farmers only used a little at a time, so large animals were not harmed. However, once DDT was used in a field, it did not go away. Whenever it was used, DDT just stayed in the environment. Eventually, rain washed it into rivers and lakes. Plankton, a tiny water organism, absorbed the DDT. Then, fish ate the plankton. There was not much DDT in one bit of plankton, but small fish consumed many little bits of plankton. Then, larger fish ate lots of the smaller fish. So, the concentration of DDT in the larger fish became higher. Then, birds such as the osprey ate large quantities of the larger fish.

In the end, compared to the concentration of DDT in plankton, the concentration of DDT in osprey was 10 million times greater! The DDT did not kill the osprey, though. It just made the female osprey lay eggs with very thin shells. The shells were so thin that when the mother sat on the eggs, they broke. Thus the osprey population became greatly reduced before rebounding to today's levels.

31. According to the passage, which of the following is true about Elton's idea of food chains?
- A. He only looked at plants and animals near his home.
  - B. Other scientists at the time rejected Elton's idea.
  - C. The chains started with plants.
  - D. They measured the energy stored in food.
32. As used in paragraph 2, what is the meaning of the word "field"?
- A. A piece of land for plants
  - B. An area of study
  - C. A place for playing games
  - D. A region that is visible

33. What does "others" in paragraph 2 refer to?
- A. farmers
  - B. food chains
  - C. foxes
  - D. rabbits
34. The expression "depend on" in paragraph 2 is closest in meaning to
- A. count on
  - B. have a relation to
  - C. need
  - D. trust
35. In paragraph 3, what does the author imply?
- A. Animals that do not eat other animals
  - B. How simple food chains are limited
  - C. The relationship of rabbits and foxes
  - D. Ways to teach food chains to children
36. Why does the author mention DDT in reference to food chains?
- A. To compare this chemical's effect on producers and consumers
  - B. To explain why consumers sometimes become extinct
  - C. To illustrate the true complexity of nature
  - D. To show how the simple concept of food chains could be useful
37. All of the following are mentioned in the passage EXCEPT
- A. a simple example of a food chain
  - B. consumers and producers in the jungle
  - C. how a food chain helped explain a problem
  - D. who came up with the idea of food chains
38. Why did large fish in rivers and lakes have high concentrations of DDT in their bodies?
- A. The large fish ate small fish with DDT in them
  - B. The large fish laid eggs in plankton with DDT in it
  - C. The large fish naturally produced DDT
  - D. The large fish swam in water with DDT in it
39. What can be inferred from the last paragraph about osprey?
- A. They became extinct.
  - B. They began laying more eggs.
  - C. They were helped before all of them died.
  - D. They stopped eating fish.
40. Where would the following sentence best fit in paragraph 3?  
Therefore, when trying to describe the real world, it is more appropriate to think of food webs rather than food chains.
- A
  - B
  - C
  - D