**Food Web Menu**

Do you know where your energy comes from? Can you identify the food chain in the foods you eat? Get a menu from your favorite restaurant. Choose 3 dishes from your menu and identify **at least 3** of the 5 parts of the food chain. You should categorize **everything** in the dish, for example mayonnaise or cheese or some creamy dressings come from milk, which comes from a cow, so you would put those ingredients on the primary consumer line like this: Primary consumer: cream/cow. Bread needs yeast to rise; yeast is a fungus so it would be placed on the decomposer line. Decomposers: bread/yeast Don’t forget to attach your menu to this paper.

Dish 1 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ingredients: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Producers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Primary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Secondary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tertiary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Decomposers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dish 2 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ingredients: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Producers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Primary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Secondary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tertiary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Decomposers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dish 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ingredients: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Producers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Primary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Secondary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

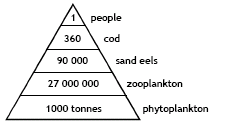
Tertiary consumers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Decomposers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pick at least 12 items from your menu, and fill out the chart below. On an **attached sheet of paper**, draw a food web with the 12 pictures of where the food comes from and the energy flow involved.

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| **Ingredient** | **Comes From…?** | **Part of Food Chain** |
| Salsa/spaghetti sauce | *Tomato, onions, peppers* | *producer* |
| *Salami/ham/bacon* | *Pig* | *1o consumer/2o consumer* |
| *Lettuce* | *Lettuce* | *producer* |
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**Shortening the Food Chain.**

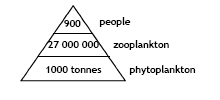


Look at the pyramid on the right. It shows the estimated number of individuals that could be supported by 1000 tonnes of phytoplankton per year. Humans are at the top of this pyramid. How many cod would one human eat in a year?

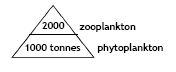
It works out at about 1 cod a day.



What if the food chain is shortened and people ate sands eels instead of cod?

Thirty people could be supported in this way, that’s assuming that each person could get by on about 10 sand eels a day.

What if the food chain is shortened again? People now feed on zooplankton such as shrimps. How would you fancy 100 shrimps a day? If so, this same food chain could support 900 people a year.

What if we were to remove the last animal link in the food chain and become vegetarian?

Feeding upon 2kg of phytoplankton a day may not appeal to you. But this could sustain 2000 people per year.

What is the message for us from this simple exercise?

Quite simply, a vegetarian diet can support far more people. By eliminating links in the food chain, more people at the end of the food chain can be fed. This is because we are reducing the 90% ‘wastage’ of energy that occurs between one trophic level and the next. Quite simply, the longer the food chain, the more energy will be lost.

1. Based on what you learned above, do you think earth has enough resources to eliminate world hunger? Please explain why or why not. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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2. Why do you think that people living in under developed countries tend to have vegetarian diets?

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3. In western developed countries, people have a varied diet including poultry, fish, lamb, beef and pork. What does this tell you about the economies of these countries?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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4. The human population is increasing at an alarming rate. How do you think this will affect the future piece of meat?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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