

Photocopy the following cards back to back, one set per class. Cards can be cut out along the lines.

#### **Environmental Factor 1**

Number of fast food establishments (such as McDonald's or Burger King) or convenience stores that are in your community.

Abby G. Ershow, Sc.D. 2009. Environmental Influences on Development of Type 2 Diabetes and Obesity: Challenges in Personalizing Prevention and Management in Journal of Diabetes Science and Technology, Diabetes Technology Society, 3, 727-734.

#### **Environmental Factor 2**

Number of times you eat a meal at a fast food restaurant over the course of the week.

Farah Naja, Hwalla N, Itani L, Salem N, Azar ST, Zeidan MN, 2012. Dietary patterns and odds of Type 2 diabetes in Beirut, Lebanon: a case control study. Nutrition and Metabolism 9: 111-122

#### **Environmental Factor 3**

Number of servings of fruit juice you drink per day.

Harvard School of Public Health. The Nutrition Source: Simple Steps to Preventing

Diabetes: <a href="http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/">http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/</a>

## **Environmental Factor 4**

Number of 12-ounce sugar-sweetened sodas you drink on an average day (one 36 ounce drink = 3 x 12-ounce drinks).

Harvard School of Public Health. The Nutrition Source: Simple Steps to Preventing

Diabetes: <a href="http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/">http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/</a>

## **Environmental Factor 5**

Number of grocery stores in your community.

Curry, Andrew. "Bringing Healthy Fare to Big-City 'Food Deserts." Diabetes Forecast. December 2009.

http://forecast.diabetes.org/magazine/your-ada/bringing-healthy-fare-big-city-food-deserts

## **Environmental Factor 6**

Number of Farmer's Markets, community gardens, or neighbors who share fresh produce in your community.

Curry, Andrew. "Bringing Healthy Fare to Big-City 'Food Deserts.'" Diabetes Forecast. December 2009.

 $\underline{\text{http://forecast.diabetes.org/magazine/your-ada/bringing-healthy-}} \underline{\text{fare-big-city-food-deserts}}$ 

# **Environmental Factor 7**

Number of servings of fruits and vegetables you have on an average day

Harding, AH, Wareham, NJ, Bingham SA et al (2008) Plasma vitamin C level, fruit and vegetable consumption, and the risk of new-onset type 2 diabetes mellitus: the European prospective investigation of cancer—Norfolk prospective study. Arch Intern Med 168:1493-1499.

# **Environmental Factor 8**

Number of times per week you eat red meat (beef, pork, lamb)

Harvard School of Public Health. The Nutrition Source: Simple Steps to Preventing

Diabetes: <a href="http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/">http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/</a>

#### **Environmental and genetic risk cards**



#### Back of cards

A study from Beirut, Lebanon showed that
people with type 2 diabetes are 2.80 times
more likely to eat a high fast food diet than
people without type 2 diabetes.

A study in Portland, OR showed that an increase in fast food outlets is associated with a 7% increase in being overweight and obese.

Li F, Harmer PA, Cardinal BJ, Bosworth M, Acock A, Johnson-Shelton D, Moore JM. Built environment, adiposity, and physical activity in adults aged 50–75. Am J Prev Med. 2008; 35 (1):38–46.

Based on data from several studies, for every 12 oz. serving of a sugary drink per day, diabetes risk increases by 25%.

Research on the effects of artificially-sweetened beverages is still unclear about association with t2d, but one large study of men showed that drinking one 12 oz can of diet soda per day does not affect t2d risk.

Drinking 2 or more servings per day of fruit juice is associated with a 31% increase in t2d risk compared to drinking less than 1 serving per month. There is growing evidence that daily drinking of sugary drinks also results in chronic inflammation, high triglycerides, decreased HDL ("good" cholesterol) and increased insulin resistance.

There is a strong correlations between increased rates of type 2 diabetes and people who live in areas without access to affordable, healthy food options within a convenient travelling distance.

A study of Chicago neighborhoods found that people who did not have access to affordable, healthy food options within a convenient travelling distance died from diabetes at twice the rate as people from areas offering access to grocery stores.

Eating red meat (beef, pork, or lamb) or processed red meat daily, even a small serving about the size of a deck of cards, increases diabetes risk by 20%.

Replacing red meat with a daily serving of fish, poultry, nuts, or whole grains results in a 35% reduction in diabetes risk.

A 12-year study showed that people with higher levels of vitamin C were less likely to develop diabetes. Vitamin C is a good indicator of fruit and vegetable consumption because fruits and vegetables are the main source of vitamin C in the western diet. Even small amounts of them may be beneficial, and protection against diabetes increases with the amount of fruits and vegetables consumed.