**Assignment 6: DRI Tables and Calculations**

**Part A**

**1.** Print out the following Health Canada reference sheets (13 pages) and use them to complete this assignment. [**http://www.hc-sc.gc.ca/fn-an/alt\_formats/hpfb-dgpsa/pdf/nutrition/dri\_tables-eng.pdf**](http://www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/nutrition/dri_tables-eng.pdf)

**2.** Explain each of the following terms in your own words:

1. Estimated Average Requirement.(EAR)
2. Recommended Dietary Allowance (RDA)
3. Adequate Intake (AI)
4. Upper Tolerable Limit (UL)
5. Estimated Energy Requirement (EER)
6. Physical Activity Level (PAL)

**3.** **a.** Read the chart below to determine your **physical activity level**, or PAL (see info in top two rows).

**b.** Based on the chart, what is your **physical activity coefficient**, or PA value?

**Chart of PA Values**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Sedentary** **(PAL 1.0-1.39)** | **Low Active** **(PAL 1.4-1.59)** | **Active** **(PAL 1.6-1.89)** | **Very Active** **(PAL 1.9-2.5)** |
| Typical daily living activities (e.g. household tasks, walking to the bus) | Typical daily living activities PLUS 30 - 60 minutes of daily moderate activity (e.g. walking at 5-7 kph) | Typical daily living activities PLUS At least 60 minutes of daily moderate activity | Typical daily living activities PLUS At least 60 minutes of daily moderate activity PLUS An additional 60 minutes of vigorous activity or 120 minutes of moderate activity |
| **Boys 3-18y** | 1.00 | 1.13 | 1.26 | 1.42 |
| **Girls 3-18y** | 1.00 | 1.16 | 1.31 | 1.56 |
| **Men 18y+** | 1.00 | 1.11 | 1.25 | 1.48 |
| **Women 18y+** | 1.00 | 1.12 | 1.27 | 1.45 |

**Part B**

**1.** What is the energy yield (kcal per gram) of each of the following macronutrients (hint: review the respective content pages and links within the these topic sections of the online course)? **Carbohydrate Fat Protein**

**2.** Use the equation on Page 5 of the Health Canada DRI Tables to determine your personal **estimated energy requirement**, or EER. **Show all of your calculations** (each line).

**3.** Using the Health Canada DRI Tables, create your own DRI Table that identifies your personal nutrient requirements for the various nutrients presented in the chart below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Personal Dietary Reference Intake (DRI) Table** | | | |
| **Name** |  | | |
| **Age** |  | | |
| **Gender** |  | | |
| **BMI \*show calculation**  **(from assignment 2)** |  | | |
| **PAL**  **(from above)** |  | | |
| **EER**  **(from above)** |  | | |
| **Special dietary requirements (if any)** |  | | |
| **Name of Nutrient** | **EAR** | **RDA/AI** | **UL** |
| Carbohydrate |  |  |  |
| Fat |  |  |  |
| Protein g/kg/d |  |  |  |
| Thiamin (B1) |  |  |  |
| Riboflavin (B2) |  |  |  |
| Niacin (B3) |  |  |  |
| Vitamin B6 |  |  |  |
| Cobalamin (B12) |  |  |  |
| Folacin (B9) or folate |  |  |  |
| Ascorbic acid  (Vitamin C) |  |  |  |
| Retinol (Vitamin A) |  |  |  |
| Vitamin D |  |  |  |
| Vitamin E |  |  |  |
| Vitamin K |  |  |  |
| Calcium |  |  |  |
| Sodium |  |  |  |
| Iron |  |  |  |
| Zinc |  |  |  |

\*\*You will use the information in this table for the next part of the course (for your diet analysis).

**Part C**

**Example calculations for some of the problems below can be found in the content notes online. Review the notes specifically on the digestion of carbohydrates, fats and protein.**

**1.** Calculate the recommended energy requirement, in kcals, for carbohydrate (55-60%), fat (30% or less) and protein (15%) for each of the following daily kilocalorie intakes:

1. A diet of 2000 kcal
2. A diet of 3000 kcal

**2.** Calculate the number of grams of carbohydrate, fat and protein needed to provide the energy for each nutrient in the previous question.

**3.** **a.** A snack that consists of a peanut butter cookie and 125ml of whole milk had 17 grams of carbohydrate, 5 grams of protein and 11 grams of fat. How many kcals would the entire snack provide?

**b.** Calculate the percent (%) energy from each of the nutrients in the snack.