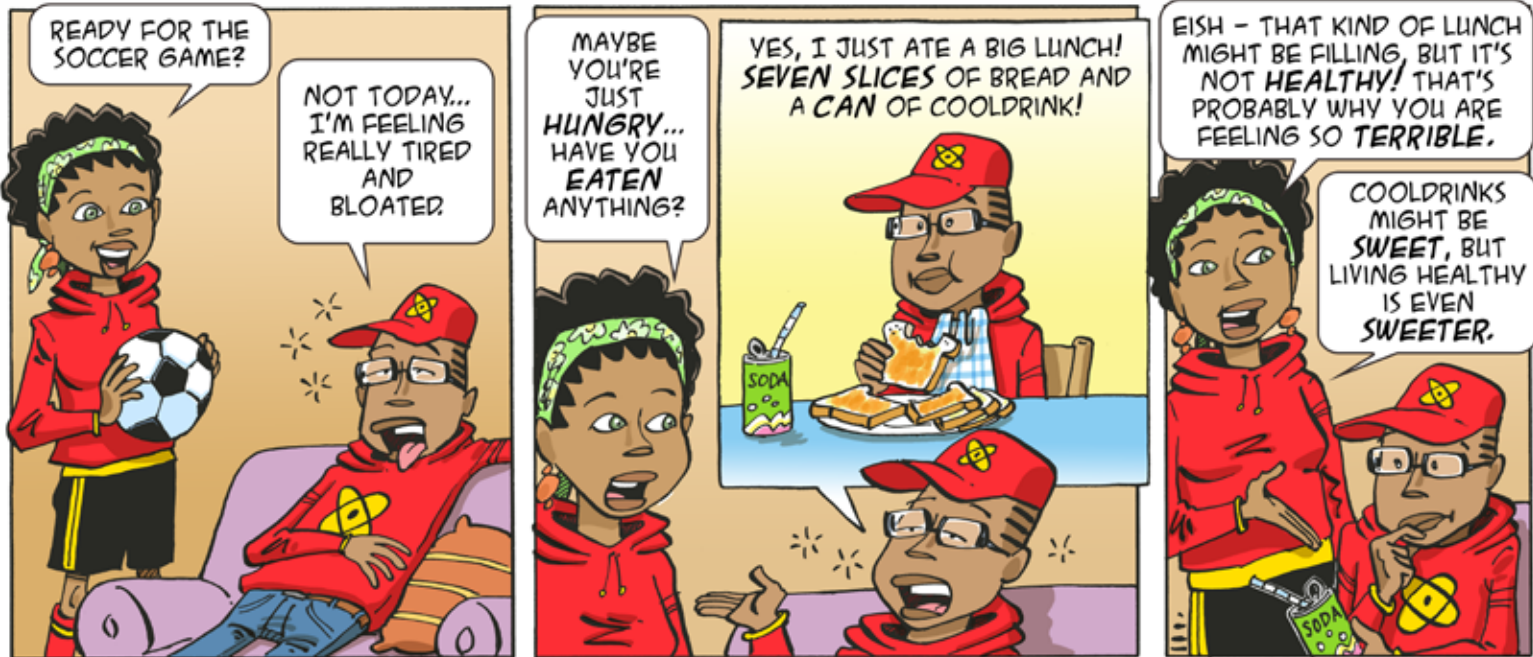




HEALTHY EATING!



ACTIVITY: CALCULATE YOUR SUGAR INTAKE

IN THIS ACTIVITY YOU WILL INVESTIGATE THE AMOUNT OF SUGAR THAT YOU EAT IN ONE DAY. YOU WILL NEED PAPER, A PEN AND A CALCULATOR.



1 KEEP A FOOD DIARY FOR A FEW DAYS. LIST ALL THE THINGS YOU EAT - NO MATTER HOW BIG OR SMALL.

2 NOW TRY TO CALCULATE THE AMOUNT OF SUGAR THAT YOU ARE CONSUMING EACH DAY. LOOK AT THE LABELS ON THE BOX OR CAN OF FOOD TO SEE HOW MUCH SUGAR IT CONTAINS. IF YOU CAN'T FIND THE INFORMATION, THIS TABLE WILL GIVE YOU A GUIDE ABOUT THE AMOUNT OF SUGAR IN TYPICAL FOODS.

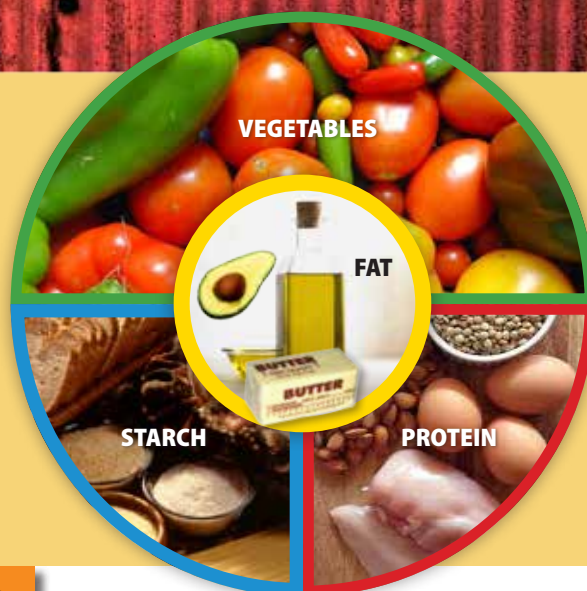
Type of food	Approximate mass of sugar
1 teaspoon of sugar	4 g
1 can of fizzy drink, 330ml (e.g. Coca Cola)	36 g
1 cup of fruit juice, 250ml	23 g
1 slice of white bread	1,5 g
1 slice of brown bread	1 g
1 slice of cake	20 g
1 bowl of breakfast cereal, 40g (e.g. Cornflakes)	8 g
1 bar of chocolate, 100g	48 g
1 packet of sweets, 100g	80 g
4 biscuits	9 g

3

SOME NUTRITIONAL SCIENTISTS RECOMMEND THAT OUR TOTAL SUGAR INTAKE SHOULD **NOT BE MORE THAN 30 GRAMS PER DAY** IF WE WANT TO KEEP OUR BODIES HEALTHY. FROM YOUR CALCULATIONS, CAN YOU WORK OUT HOW MUCH SUGAR YOU ARE PUTTING INTO YOUR BODY EACH DAY COMPARED TO THIS RECOMMENDED AMOUNT?

4

DESIGN A WEEKLY MEAL PLAN TO MAKE SURE THAT YOU GET ENOUGH NUTRIENTS FOR A HEALTHY BODY. USE THE FOOD WHEEL AND THE INFORMATION ON PAGE 3 FOR WHAT IS NEEDED FOR A BALANCED DIET, AND DO SOME ADDITIONAL RESEARCH USING THE INTERNET OR YOUR SCHOOL MEDIA CENTRE.



WHAT IS THE PROBLEM WITH SUGAR?

Sugar is addictive! The more we eat, the more we want to eat.

Sugar causes **inflammation** (swelling and irritation) in the veins and other cells of the body. This inflammation can lead to cancer and heart disease.

Too much sugar can badly damage your liver (this is called **Non-Alcoholic Fatty Liver Disease**), and this can eventually lead to liver failure.

Sugar in your bloodstream causes **insulin** to be released, which is an important hormone that keeps the amount of sugar in your blood balanced. If you eat too much sugar, your body can become resistant to insulin, and this leads to many diseases including **type 2 diabetes**.



Sugar lowers your body's **natural immunity**, and can make you more vulnerable to other illnesses.

Sugar causes **tooth decay**, and eventually leads to damage to your teeth and gums.

Excess sugar is turned into **bad cholesterol**, which blocks the flow of blood in your veins and can lead to **heart disease** and strokes.

Sugar provides no essential nutrients to your body, but contains a lot of **calories**. If you don't use up these calories through exercise, they are stored in your body as fat. Too much sugar causes people to become overweight, and leads to **obesity**.



A HEALTHY DIET

Almost everything our bodies need to function properly comes from the food that we eat. This includes the energy that we need to fuel our body processes, the substances to build bone and muscle, and the substances which are used in body processes and protection. We must eat the right food to make sure our body works properly.

Unsaturated Fat: Fat contributes to energy intake and also helps your body to absorb vitamins. Unsaturated fat can be found in avocado, fish, nuts and seeds.

Saturated Fat: Saturated fat normally comes from animals, such as the fat on meat and from dairy products. Too much of this can raise blood cholesterol and lead to heart disease, so don't have too much of these.

Sugars: Sugars are a good source of energy and are found naturally in fruit and vegetables. As we discussed earlier, too much can also be bad for you.

Salt: Although a little bit of salt is needed for good health, our diets generally have a lot more than we need.

Protein: Protein is essential for the growth and repair of the cells in our body, and can be found in red meat, chicken, fish, eggs, milk and cheese. Vegetables such as baked beans and chickpeas also have a lot of protein, as do nuts and seeds.

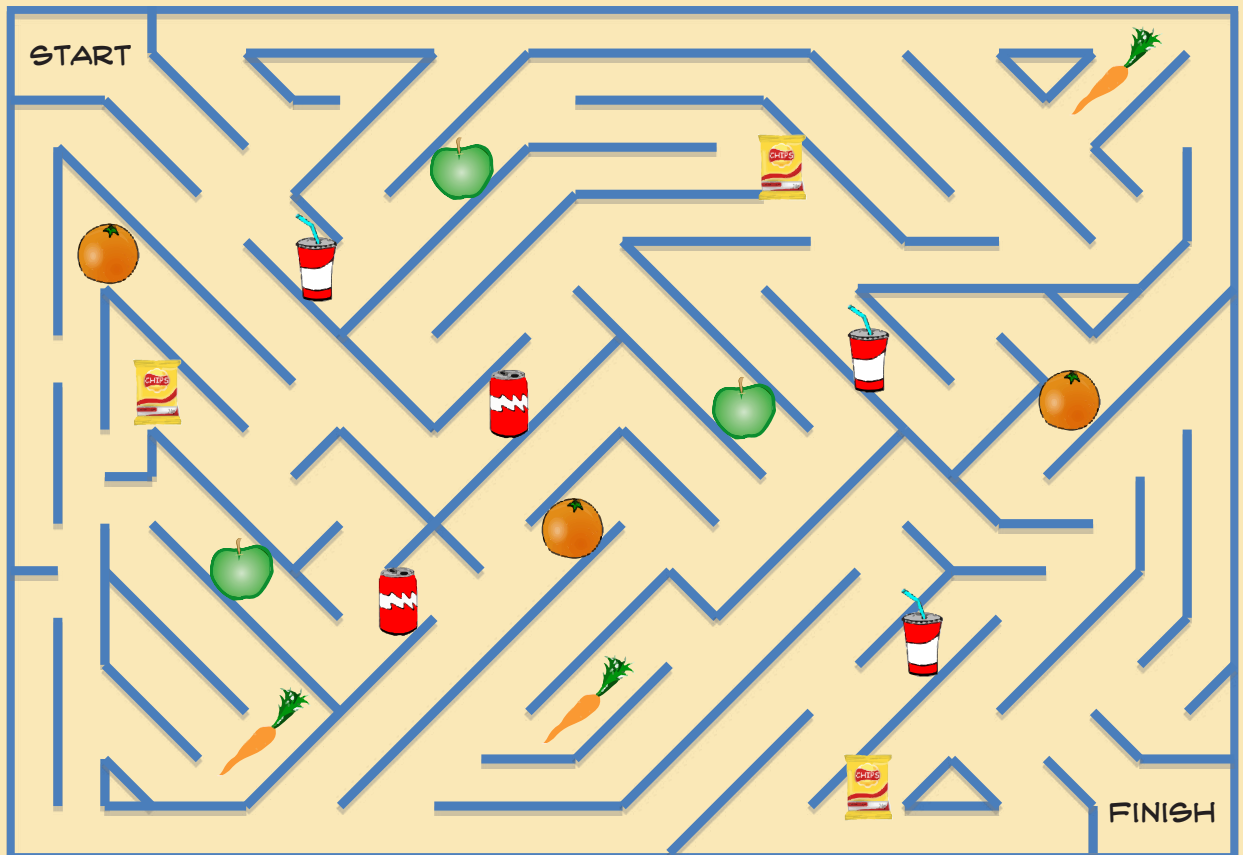
Carbohydrates: Carbohydrates are sugars and starches. They are the body's main source of energy, and should preferably be whole grains. They can be found in maize, rice, bread, pasta and potatoes.

FOR A HEALTHY DIET, YOU SHOULD DRINK PLENTY OF WATER, AND MOST OF YOUR ENERGY SHOULD COME FROM THE FOLLOWING FOOD GROUPS:



PUZZLE YOUR MIND!!!

CAN YOU GET THROUGH YOUR DAY EATING HEALTHY FOOD? GAIN 5 POINTS FOR EACH HEALTHY FOOD ITEM YOU PASS. LOSE 3 POINTS FOR EACH UNHEALTHY FOOD ITEM YOU PASS. THERE ARE MANY WAYS TO COMPLETE THE MAZE, BUT YOU MAY NOT CROSS OVER YOUR TRACKS OR GO ON A PATH YOU HAVE ALREADY BEEN ON. TRY TO SEE HOW MANY POINTS YOU CAN SCORE!



CAREERS:

THERE ARE GREAT JOB OPPORTUNITIES, SUCH AS:

- NUTRITIONAL SCIENCE
- DIETETICS
- FOOD MANAGEMENT
- MEDICINE



Zandile Ngcobo obtained her Certificate in Nutrition from the University of KwaZulu-Natal. She is now a nutritionist at Taylor's Halt Clinic, and advises the community on how to lead a healthy lifestyle.

CURRICULUM LINKS

- GR 6 **LIFE & LIVING** (NUTRIENTS IN FOOD)
- GR 8 **LIFE & LIVING** (ENERGY FLOW: FOOD CHAINS AND FOOD WEBS)
- GR 10 **LIFE SCIENCES** (THE CHEMISTRY OF LIFE)

MAGGI 2 MINUTE NOODLES WITH MOROGO



The Department of Science and Technology has partnered with Nestle, the Council For Scientific and Industrial Research and the Agricultural Research Council to produce the new Maggi 2 Minute Noodles with morogo. A lot of research went into finding the right ingredient to use - something that is tasty and appeals to South Africans, but is also nutritious and can help improve the nation's diet. Morogo is an integral part of traditional South African diets, and is high in protein, vitamins and minerals.



START YOUR OWN SCIENCE SPAZA

Name of school: _____

Municipality: _____

Province: _____

Name of your science club:

Name of contact person: _____

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Email address: _____

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To be filled in by responsible adult (parent/teacher)

Name: _____

Surname: _____

Position: _____

ID Number: _____

Signature (parent/teacher):

Date: _____

Send to PO Box 22106, Mayor's Walk, 3208 Fax to 086 610 5453 email: info@sciencespaza.org or submit your application online at www.sciencespaza.org

This Science Spaza resource was produced for the National Science Week celebrations of Science for Sustainable Development and Improved Quality of Life. National Science Week is an initiative of the Department of Science and Technology (DST). It is implemented by the South African Agency for Science and Technology Advancement (SAASTA), a business unit of the National Research Foundation. For more information visit www.saasta.ac.za



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