STUDENT AGE 11-13

Marcos
gets into trouble

THE VALUE OF EFFORT

ACTIVITY BOOK

FUNDACIÓN MAPFRE
VIVIR EN SALUD
sm

STUDENT'S ACTIVITY BOOK

Marcos

gets into trouble

THE VALUE OF EFFORT

FUNDACIÓN MAPFRE

VIVIR EN SALUD

sm

These materials were developed in collaboration
with the Association of Personal Trainers of Madrid (AMEP).

AUTHORS
Borja Abad Galzacorta
Marina Barba Muñiz
David Cañada López

CONTRIBUTORS
Lara Ruiz Álvarez
Marcela González-Gross

PROOFREADER
Ignacio Oscoz Zudaire

Technical coordinator at FUNDACIÓN MAPFRE: Yolanda Mingueza Sebastián
Coordinating editor: Carla Balzaretti
Editors: Carolina Pérez Gutiérrez and Julia Fernández Valdor
Cover and book design: Estudio SM
Illustrations: David Belmonte
Photographs: Javier Calbet, Juan Baraja, Sergio Cuesta/Archivo SM; Javier Jaime; Montse Fontich; David Vega/Objetivo Producir; Doug Menuez, Jack Hollingsworth/PHOTODISC; Andrew Ross/iSTOCKPHOTO.COM; PHOVOIR; INGRAM; THINKSTOCK; ORANGESTOCK; STOCKBYTE

Paseo de Recoletos, 23
28004 Madrid
Spain
www.fundacionmapfre.com

Impresores, 2 - Urbanización Prado del Espino
28660 Boadilla del Monte, Madrid
Spain
www.grupo-sm.com

ISBN: 978-84-9844-330-1
Legal deposit: M-39294-2012
Printed in EU

This book is printed on paper manufactured from trees grown in forests and plantations that are managed according to the highest environmental standards, guaranteeing a use of sustainable resources that is beneficial to the environment and people.

Table of Contents

1. WELCOME!

Hello! I'm Marcos and this is my sister, Lucía. We'd like to invite you to come along with us as we discover the secrets to leading a healthy life. Have you ever wondered what sort of gait you have, or about your footwear, and whether these things are important? What exercises can you do at home in order to prevent back pain? Do you fancy being a health inspector for a day, and taking a maths challenge to calculate your daily energy expenditure?

If you answered yes to any of these questions, open your eyes and pay attention.

Your future is in your hands!

NAME

SURNAMES

CLASS

SCHOOL

In the following chapters, we're going to discover how to adopt healthy habits in our daily lives. We'll focus on three basic pillars:

PHYSICAL ACTIVITY

EATING RIGHT

GOOD POSTURE

Together, we'll find out what exercises are best for young people our age, learn about the importance of warming up before exercising, and learn what type of athletic footwear we should use.

We'll also learn about eating right. We'll look at food labels, how foods should be stored and formulas for maintaining the perfect energy balance.

And in the final section on posture, we'll focus on how to take care of our backs.

3. What about my family?

You can share everything you learn here with your brothers, sisters, parents, grandparents, other family members, and friends.

They'll thank you for it, **because we all have to look after our health, no matter how old we are!**

So are you ready to discover the secrets to leading a healthy, active life?

Well, then . . . **LET'S GO!**

4.1 Exercises to help you stay in shape

In order to be healthy and stay in shape, we have to do physical activity every day, or nearly every day of the week, and we should do it at an intensity level that's right for people our age.

There are a lot of different types of exercises that we can do in order to stay in shape:

Resistance exercises

Resistance exercises are exercises that you do non-stop for a medium or long period of time (between 20 and 60 minutes) and that involve most of the muscles in your body.

Examples: Running, swimming, dancing, skating, playing team sports like basketball, football and handball, races (marathons), etc.

Frequency: You should perform resistance exercises nearly every day.

The main **benefits** you'll receive from doing these exercises properly involve your heart and lungs. Performing this type of exercise makes your heart grow bigger, which means it pumps more blood each time it beats, and it tires out less quickly. Your lungs will also work more efficiently.

Strength exercises

These are exercises that give your muscles an intense workout.

Strength exercises can be done by children and adolescents, but you mustn't forget that you must always warm up before exercising. Ask your physical education teacher about how to warm up.

Examples: Climbing, gymnastics, exercises with weights, sit-ups, martial arts like judo, etc.

Frequency: You should perform strength exercises twice a week.

Benefits: Strength training protects your joints because it helps you avoid muscle imbalance. And by working your abdominal and back muscles, you'll protect your spine.

Flexibility exercises

These exercises involve moving your joints as far as they can go and stretching your muscles. In order to stretch properly, you have to hold the stretch for at least 20 seconds and do 2 repetitions.

Examples: Sports such as rhythmic gymnastics and dancing are great for working on flexibility, although there are many other sports that involve flexibility exercises.

Frequency: You should do flexibility exercises at least twice a week, and they should always be part of your warm-up before you do any sort of physical activity. If you don't work on your flexibility, since flexibility decreases with age, you'll become less flexible as you get older.

Benefits: Being flexible makes you less prone to injuries, helps you recover more easily after a workout, and prevents back pain.

ACTIVITY SHEET 1

Warming up

So we've seen what exercises the experts recommend, but can we start doing them however we want?

Before you do any moderately intense physical activity, you have to **warm up** in order to prevent injuries during exercise.

Warming up gets your body ready to exercise. A warm-up can be defined as a set of activities that prepares your body to carry out a greater effort, preventing you from getting injured.

1 JOGGING

You should always start off by jogging gently, moving in different directions (straight ahead, side to side, jumping around, on your tiptoes, etc.).

2 MOVING YOUR JOINTS

Then move your joints, like your ankles, knees, hips, spine and shoulders.

3 STRETCHING

Finally, stretch your main muscles: your abductor muscles, lower back muscles, quadriceps, calves, hamstring, etc.

What does a good warm-up do for you?

EFFECT	SEE FOR YOURSELF
It lowers your risk of injury.	Ask some adults if they remember any injuries they've suffered while exercising and whether they had warmed up properly beforehand.
It increases blood flow. Your heart pumps more blood to your muscles.	Take your pulse before and after you warm up and you'll see that it has sped up after your warm-up.
Your breathing gets faster.	Count how many breaths you take per minute before and after you warm up.
It improves your coordination.	Play a game of skill (such as steal the bacon or tag) with a partner and you'll see that your body reacts more quickly after you've warmed up.
It improves your concentration.	Notice how your head feels clearer after you've warmed up.
Your body temperature goes up.	Sweat and some redness in your skin indicate that the temperature of your body has gone up, and that your body is ready for physical activity.

ACTIVITY

Design and draw a warm-up showing at least:

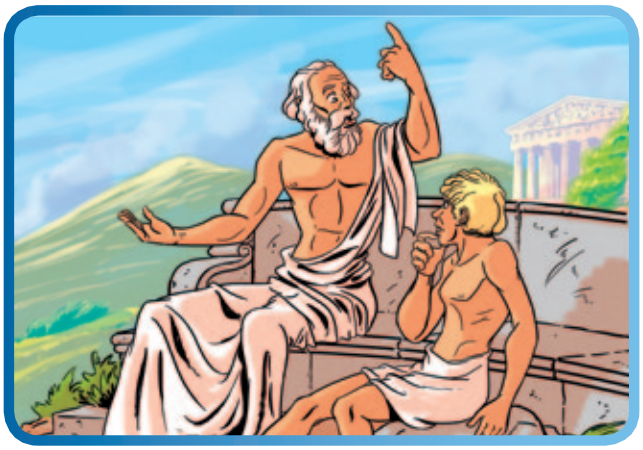
- 4 exercises involving jogging.
- 4 exercises involving moving your joints.
- 4 stretches.

5. PHYSICAL ACTIVITY (II)

5.1 Footwear

Did you know that in the past athletes used to run barefoot? Footwear hasn't always been as important as it is today.



Are you familiar with Pheidippides and his incredible feat? Do some research or ask your teachers.

Why do we need footwear?

- Just like the tyres of a car, your shoes grip the ground, enabling you to walk without slipping. We call this property just that, 'grip'.
- Your shoes protect you against impacts, blows and bumps, just like the shock absorbers of a car.
- They keep your feet warm in cold weather.
- If you have problems with your gait, your shoes help to correct them.

How do we know if a particular shoe is right for exercising?

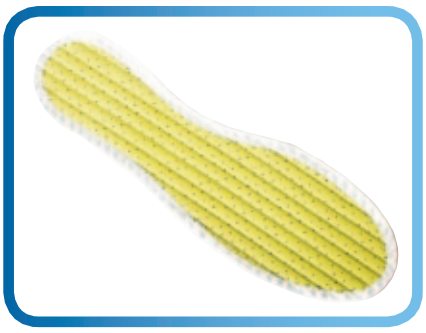
- The sole of a sports shoe should be flexible, lightweight, thick enough to provide cushioning, and have a deep enough tread to grip the ground.
- The form of the shoe should be wide enough so that it isn't tight on your foot. It should feel comfortable and snug.
- The inside of the shoe should not have any uncomfortable seams or raised areas that would rub against your foot uncomfortably or cause blisters.
- The shoe should be made out of breathable material in order to prevent fungus and foot odour.
- The heel of the shoe should fit snugly, but you should have enough room to move your ankle.
- It should have a closure mechanism that allows you to adjust the shoe to your foot.
- You can use anti-odour insoles if you need to.

You should use different types of footwear: trainers, dress shoes, boots, etc.

THE PARTS OF A SHOE

The upper

This is the material that makes up the top part of the shoe. It protects your foot and adapts to its movement.



The insole

This is the thin layer of cushioning that makes sure your foot rests comfortably inside the shoe. Some shoes come with anti-odour insoles.

The last

This is the mould used to make the shoe.

The heel counter

This is the support structure in the heel of the shoe. It is made of a stronger material than the rest of the shoe.

The sole

This is the part of the shoe that protects the bottom of your foot. It also provides grip and traction.

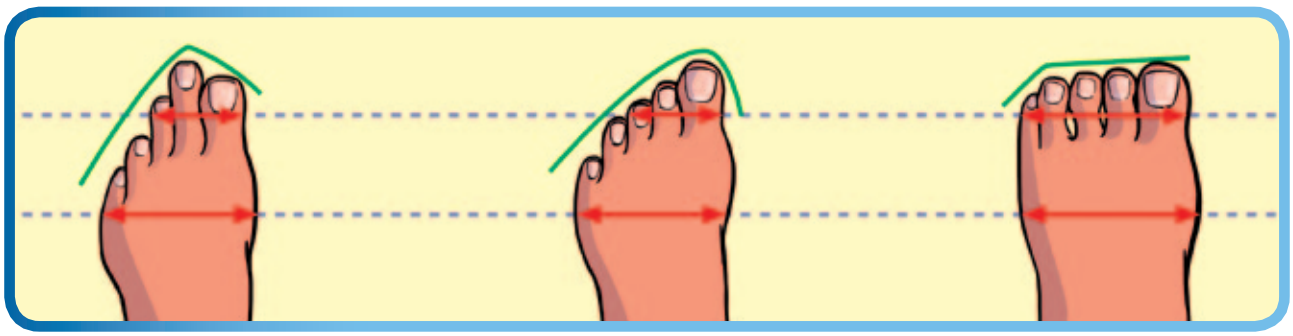
ACTIVITY SHEET 2

Feet, don't fail me now!

Wearing the wrong kind of sports shoe can cause ankle or knee injuries.

In order to choose the right sports shoe, you need to know what type of foot you have.

1. Depending on how long your toes are and how they compare to each other, you may have a:

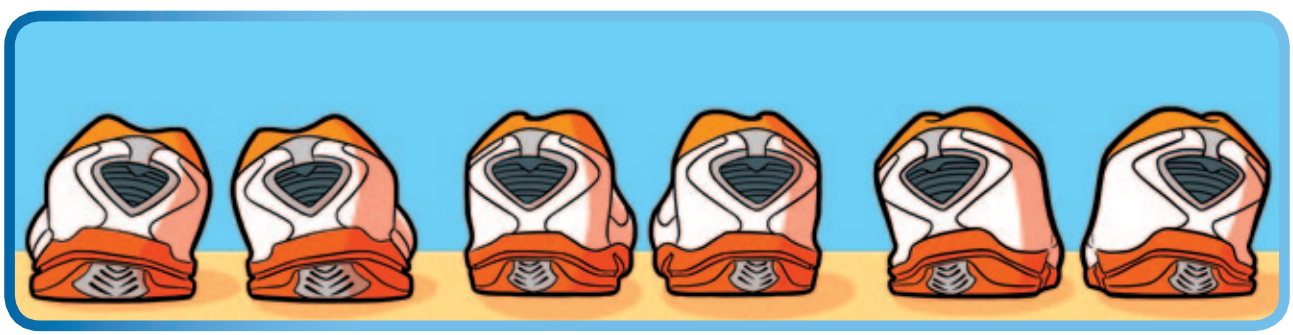


Greek foot: This type of foot is called 'Greek' because it is the type of foot that is found on Ancient Greek sculptures made 2,300 years ago. On the Greek foot, the second toe is the longest. Approximately one in six people have this type of foot. If you have a Greek foot, **you should use footwear with an elongated form.**

Egyptian foot: This is the type of foot seen on statues of pharaohs. The big toe is the longest and the rest of the toes taper down from there. If you have an Egyptian foot, **you should use wide footwear with a round toe.**

Square ('Polynesian') foot: This is the most common foot type. The square foot has two or three toes of the same length. If you have a square type foot, **you should avoid wearing wide shoes so that your toes do not spread out too much.**

2. Depending on how your ankles 'lean' when you step, your gait may be:



Overpronated: An overpronated gait involves the ankles leaning inwards, meaning that the foot rests mostly on its inner area (the big toe). If you have an overpronated gait, you probably have low arches or flat feet.

Neutral: This is the correct gait.

Supinated: A supinated gait involves the ankles leaning outwards, meaning that the foot rests mostly on its outer area (the little toe). If you have a supinated gait, you probably have high arches.

3. Depending on whether or not your foot hits the ground evenly, you may have :

Flat feet: Usually, flat feet are associated with pronators, whose arches tend to collapse.

High arches: Usually, high arches are associated with supinating, which causes the foot's arches to become too high.

Now that I've got all this information, **how do I know what type of foot I have?**

One easy and inexpensive way to find out is to do the following test at home. Stand with your feet slightly apart and bend your knees as far as you can without taking your heels off the floor. This will show you how your ankles tend to move.

Did you know that Marcos has an Egyptian foot, a slightly supinated gait, and relatively high arches?

How about you? What type of foot do you have? Wet your feet and step on a piece of paper or another surface where your footprint will be visible. Then draw your foot type and gait here.

Now that you know your foot type and gait, do some research to find out the possible consequences.

LENGTH OF TOES	HOW ANKLES LEAN	HOW FOOT HITS THE GROUND

ACTIVITY

Now we're going to do some research!

Find pictures of Greek, Egyptian and Polynesian sculptures with the types of feet you've learnt about. Write down the names of the artists and sculptures and share them with your classmates.

6. EATING RIGHT (I)

6.1 I know what I eat!

Do you know what information you should look for before you consume a pre-packaged product?

1. **The use-by or best before date:** The use-by date tells us that the food or drink must no longer be consumed, while the best before date indicates that the product is still safe to eat, but may have begun to lose some of its qualities.
2. **Name:** This is the trade name of the product, but be careful, because it doesn't mean that the product's ingredients are limited to those mentioned in the name.
3. **Ingredients:** These are all the components of the product. People with allergies should pay careful attention to the ingredients list.
4. **Preparation instructions:** These tell us how to prepare the product for consumption.
5. **Storage instructions:** These tell us where and how to store the product.
6. **Net weight:** This is the weight of the drained product, not including the weight of the container.
7. **Barcode:** This is a fast way of identifying the product and its characteristics.

Now that you know how to read food and drink labels, we're going to give you some advice on buying and storing products.

At the shop: Buy non-perishable items first, then fresh foods and finally frozen foods. **Do you know why you should buy them in this order?**

At home: Store foods in the right place and in the correct order:

1. Frozen foods.
Foods should be wrapped in cling film or kitchen foil and labelled with their name and the date when they were frozen. Once some food has been defrosted, it mustn't be frozen again.

2. Fresh foods.
Foods that need to be kept cooler, like meat and fish, should be placed close to the freezer. Fruits and vegetables should be stored in the lower drawers of the refrigerator, where it is not as cold, because they can go off if kept too cold. The shelves on the doors can be used to store items that don't need to be as cold, such as sauces, eggs and milk.

3. Non-perishable foods.
Non-perishable items can be kept in the kitchen cupboards or on shelves, away from the floor to keep them dry and cool.

ACTIVITY SHEET 3

Health inspector

ACTIVITY

Use the test on the next page to assess whether foods and drinks are stored properly at your house to receive the corresponding certificate of quality. Use the model on the next page.

If you've got **all correct answers,** you've earned a **health certificate**. This means that you found all the foods and drinks where they belong, and that they are stored properly and are in good condition. The freezer and refrigerator are clean.

If you've got at least **7 correct answers**, you've earned a **provisional certificate** until you correct the problems. There are only a few problems, such as products in the cupboards that have passed their use-by dates, foods or drinks stored uncovered in the fridge, or items that are not stored in the proper place.

If you've got **fewer than 7 correct answers** we can't give you a health certificate. You **will be denied a certificate** until you fix the problems you found, such as foods that have gone off, products that have passed their use-by dates, or items that are stored uncovered or in dirty containers.

Photocopy and cut out as many certificates as you need.

Health Inspector _____

hereby issues a provisional certificate of **'proper storage and condition of food products'** at the home of

_____.

Date _____ Signature

Valid for 6 months

Health Inspector _____

hereby issues a certificate of **'proper storage and condition of food products'** at the home of

_____.

Date _____ Signature

Valid for 6 months

Health Inspector _____

hereby denies the certificate of **'proper storage and condition of food products'** at the home of

_____.

Date _____ Signature

Valid for 6 months

Health inspection test

Labelling and storage of foods

HEALTH INSPECTION

Glue photo here

Inspector's name: _____

Badge no. _____

Evaluate whether food products are stored properly in the freezer, refrigerator and cupboards at the home of a relative or a close neighbour. Mark what you observe during your inspection below.

Refrigerator and freezer test:

- Each type of food is on the proper shelf. GOOD BAD
- Cooked foods are wrapped in cling film or foil or stored in containers. GOOD BAD
- There is enough space for air to move freely between foods. GOOD BAD
- The refrigerator is clean. GOOD BAD
- The meat and fish are stored closest to the freezer. GOOD BAD
- The products that do not need to be kept cold, such as drinks, water and sauces, are kept on the door. GOOD BAD
- There are no products that have passed their use-by dates. GOOD BAD
- There are no products that look bad (bad odour or colour, strange appearance). GOOD BAD

Cupboard test:

- The cupboard is organised and clean. GOOD BAD
- There are no products that have passed their use-by dates. GOOD BAD
- Foods and drinks are kept in a dry place away from the light. GOOD BAD

7. EATING RIGHT (II)

7.1 Energy balance

A **balanced** diet is one that gives you the energy and nutrients necessary to meet your nutritional needs and prevent dietary deficiencies.

A balanced diet:

- Should be made up of foods consumed **in moderation**.
- Should be **enjoyable**.
- Should **prevent illnesses**.
- Should be **varied**.

The recommended intake of kilocalories (abbreviated kcal and normally shortened to 'calories') of a balanced diet depends on age and gender.

TABLE 1

AGE	BOYS	GIRLS
6-10	2,000 kcal/day	2,000 kcal/day
10-13	2,450 kcal/day	2,300 kcal/day
13-16	2,750 kcal/day	2,500 kcal/day

We don't burn calories only when we do physical activity! We need a minimum amount of energy, even when we are at rest, to breathe, digest food, keep our heart beating and maintain our body temperature. We call this minimum energy expenditure our **basal metabolic rate** or resting metabolic rate.

Our **basal metabolic rate** constitutes 60-70% of our daily energy expenditure.

Every single body has specific energy needs that depend on gender, age and physical activity.

In order to keep your body's energy balanced, keep in mind that your calorie intake (what you eat) must be the same as your energy expenditure (the energy that you use up).

There are three possible scenarios:

- **Gaining imbalance:** When your intake is greater than your expenditure. This can eventually lead to problems such as becoming overweight, obesity, etc.
- **Losing imbalance:** When your intake is less than your expenditure. This can lead to weight loss and, in the long term, malnutrition. This imbalance also affects people with diseases such as anorexia or bulimia.
- **Balance:** When your intake is equal to your expenditure. This balance tends to be measured over a period of one year.

You can help!

If you think that someone you know may have an eating disorder, talk to them and let them know that you're worried. Ask your friend to get help, and offer to go with them when they get help and be there for them. Share this with an adult who can help your friend, too, such as their parents or a teacher.

Thank you for your help: your friend will appreciate it their whole life!

ACTIVITY SHEET 4

What would we do without maths?

Maths and health have always gone hand in hand.

The right distance and speed to run, the weight you should lift or the heart rate (beats per minute) you should be aiming for are just a few of the numbers that you should calculate to perfection so that you don't do too little or go too far in looking after your health. We're able to calculate all these numbers thanks to mathematical formulae.

Your teachers have been saying it for years: 'Maths is all around us, and we use it every day'.

And in the words of Roman poet Juvenal (AD 60 - AD 128):

'Mens sana in corpore sano'

Do you know what this means?

ACTIVITY

Using the table on the previous page and your daily energy expenditure, which you'll work out on the next page, fill in these boxes and compare your recommended daily intake and your daily energy expenditure to find out if you have a good energy balance.

My recommended daily intake is:

kcal/day

(See table 1 on page 18)

My daily energy expenditure is:

kcal/day

(See tables 2 and 3 on page 21)

How can you calculate your daily energy expenditure (the calories you burn each day) according to your **physical activity**, **age** and **weight**?

1. First, work out your basal metabolic rate, which is the minimum amount of energy your body needs to stay alive in a relaxed state, with the formula in table 2 (choose the table according to your gender). In the formula, substitute your weight in kilos for the letter W.

TABLE 2

MEN	
AGE (years)	WEIGHT (kg)
0-2	(60.9 x W) – 54
3-9	(22.7 x W) + 495
10-17	(17.5 x W) + 651
18-29	(15.3 x W) + 679
30-59	(11.6 x W) + 879
60+	(13.5 x W) + 487

WOMEN	
AGE (years)	WEIGHT (kg)
0-2	(61.0 x W) – 51
3-9	(22.5 x W) + 499
10-17	(12.2 x W) + 746
18-29	(14.7 x W) + 496
30-59	(8.70 x W) + 829
60+	(10.5 x W) + 596

My **basal metabolic rate** is ..... kcal/day.

2. Once you have calculated your basal metabolic rate, all you have to do is multiply it by the number (found in table 3) that corresponds to the type of physical activity you do.

TABLE 3

	LOW (sitting or lying down, driving, etc.)	MODERATE (walking, carrying objects, etc.)	HIGH (playing sport, doing farm work, etc.)
Men	1.60	1.78	2.10
Women	1.50	1.64	1.90

My **daily energy expenditure** is ..... kcal/day.

Now write this number on the scale on the previous page. What way does the scale tip?

8. POSTURE

8.1 Good posture

Did you know that more than half of your classmates have experienced back pain?

Bad posture when sitting, weak muscles and muscles that lack elasticity are the three main causes of back pain at your age. And they can turn into more serious problems if you don't work to solve them now.

The proper way to sit

- When you sit in a chair, your knees should be even with, or slightly above, the height of your hips.
- You should sit with your back against the chair.
- The seat of the chair mustn't be longer than two thirds of the length of your thighs.
- Your arms should be flexed comfortably and your elbows should not touch the desk.
- A slanted desk or stand is ideal in order to avoid stress on your neck.
- Think about using a footrest if you are unable to use an adjustable chair.

The wrong way to sit

The proper way to write on the board

Even something this simple can hurt your back if you don't do it properly. When you go up to the board, write at a height you're comfortable with, between eye and chest level, for example. Avoid straining your back or your neck!

Have we forgotten anything?

Yes. Not only do you have to sit properly, you also have to take care of your muscles, which are in charge of holding up your back. You could run into a whole lot of problems if you don't.

Imagine that your back is the mast of a boat, and your muscles are the lines or ropes that hold it up. If they are too weak, or they pull too hard on one side, the boat will tip over, or the mast could break . . . like your back!

That's why **it's important** that, in addition to sitting properly, you do the following:

- **Stretch the muscles that support your back and those that are most tense.** You can do this between classes, while you watch TV, or while you're taking a break from your homework.
- **Using exercises that are appropriate for your age, strengthen the muscles that support your back and those that are weakest.** You should do this at least twice a week.
- **If you have back pain, tell your parents or your teachers.**

ACTIVITY SHEET 5

A back of steel

This section will introduce you to a set of exercises that you can do at home. There's no need to go to a gym or use special equipment.

ACTIVITY

Find a place at home that is comfortable and free of obstacles. Or you could go to the nearest park.

The following pages explain how to do two levels of strength and flexibility exercises that are good for your back: **BEGINNER** (level 1) and **ADVANCED** (level 2).

The strength exercises appear in red and the flexibility exercises are in blue.

Before you start

- Practise these exercises in class with your teacher before doing them on your own.
- Warm up properly before doing the exercises.
- Always start at level 1, and if you can do 15 repetitions of the **strength** exercises without getting tired, move up to level 2.
- For **flexibility exercises (stretches)**, hold yourself in a position in which the muscle feels like it is getting stretched for at least 20 seconds. Repeat each exercise twice.
- Exercise 2 is the same at levels 1 and 2. The pictures show the positions between which you should alternate.
- Do these exercises 3 times a week while you watch TV, take a break from homework, etc. They'll help you to keep your back strong and healthy.
- Encourage your family members to do them with you.

LEVEL 1

EXERCISE 1


EXERCISE 2



EXERCISE 3

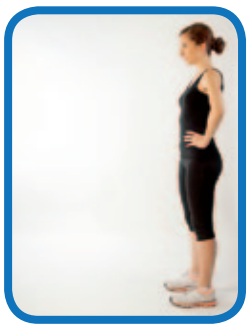

EXERCISE 4



EXERCISE 5


EXERCISE 6


EXERCISE 7




LEVEL 2

EXERCISE 1


EXERCISE 2



EXERCISE 3

EXERCISE 4



EXERCISE 5


EXERCISE 6


EXERCISE 7


9. LET'S REVISE

Well, we've reached the end of our adventure and Marcos wants to know if we have really understood the concepts we've seen here. He's going to put us to the test with a fun revision activity. Write the term described by the definition. Each definition corresponds to a letter. We've done the first one for you. Do you think you'll be able to do the rest?

A Physical . . . is the key to healthy living, along with eating right and having good posture.
B This part of your body should be upright and rest flat against your chair when you sit.
C An example of a strength exercise.
D A balanced . . . gives you all the nutrients necessary to meet your nutritional needs.
E We should do this 5 times a day.
F . . . foods must be kept in the freezer.
G The type of foot where the second toe is longer than the first.
H The hardest part of a shoe.
I All the components of a product or food.
J A type of martial art, an example of a strength exercise.
K The abbreviation for a unit of measurement of energy.
L When your energy intake is less than your expenditure, you have this type of imbalance.
M The name of the main character of the comic.
N The weight of a drained product without counting the container.
O The great epidemic of the 21st century.
P Good . . . will help you avoid back injuries.
Q The large muscle at the front of the thigh.
R These exercises involve most of the muscles in your body.
S You need to do this 8-10 hours a day.
T When you warm up, your body . . . increases.
U The material that makes up the top part of a shoe.
V Along with fruit, you should eat a lot of these as part of a balanced diet.
W You need 8-10 glasses of this a day.
X The word contains the letter x. An eating disorder resulting in a losing imbalance.
Y A dairy product that you can eat with any of the 5 meals.
Z The word contains the letter z. Both the refrigerator and the . . . should be clean.

ACTIVITY

A _____

B _____

C _____

D _____

E _____

F _____

G _____

H _____

I _____

J _____

K _____

L _____

M _____

N _____

O _____

P _____

Q _____

R _____

S _____

T _____

U _____

V _____

W _____

X _____

Y _____

Z _____

THE TEN RULES
FOR HEALTHY LIVING

1. Eat **five meals a day** and remember that you should sit down to eat breakfast, lunch and dinner.
2. Try to drink **8 to 10 glasses of water a day**. Choose water and fruit juice instead of fizzy drinks.
3. **Eat different types of food,** like meat, fruit, vegetables, pasta and fish. A varied diet is the key to eating right.

4. Do **one hour of physical activity** every day, and **strength and flexibility** exercises two or three times a week.
5. Take advantage of your **free time to do some exercise** with your family and friends.

6. Spend **less than two hours a day** on **computer** games, the **Internet** and **TV**.
7. **Protect your back.** Sit upright and carry your school bag properly.
8. Go to bed early and try to get **8 to 10 hours** of sleep.
9. Remember to **shower once a day**, **brush your teeth** and **wash your hand** before eating and after going to the toilet.
10. Make **your health** and that of your family and friends a priority so that you'll all stay **fit and strong**.

FUNDACIÓNMAPFRE VIVIR EN SALUD sm

11. VOCABULARY

Basal metabolic rate (BMR): The minimum amount of energy required to maintain the body's vital functions when at rest.

Body mass index (BMI): The formula used to determine a person's weight-size ratio. It is calculated by dividing a person's weight (in kg) by their height squared. BMI = weight/ height^2.

Coronal (or frontal) plane: An imaginary plane that divides the body vertically into two equal but asymmetrical halves, anterior and posterior.

Eating right: Having a varied, balanced diet that provides all the nutrients a child needs to grow and develop properly.

Energy balance: The amount of calories a person takes in every day in relation to the calories they burn.

Exercise: A planned and intentional movement designed to help a person stay physically fit and healthy. Examples are activities like taking a brisk walk, doing aerobics, cycling, and even active hobbies like gardening and dancing.

Good posture: Learning to position the body, move and lift objects in such a way that as little strain as possible is put on the back.

Kilocalorie (kcal): Normally shortened to 'calorie'. The unit traditionally used to measure the energy foods contain, or their calorie content.

Kyphosis: Excessive outward curvature (45° or more) of the spine which causes the spine to lose all or part of its ability to curve inwards.

Lordosis: Excessive curvature of the cervical or lumbar region of the spine.

Nutrients: Components of food. They are grouped into carbohydrates, lipids (or fats), proteins, vitamins and minerals.

Nutrition: The scientific study of the different processes involved in taking in, transforming and using foods in order to carry out the body's vital functions.

Obesity: An excessive amount of body fat that is often associated with other harmful diseases such as diabetes and heart disease.

Overpronated gait: The tendency of the ankles to lean inwards, resulting in the foot resting mostly on its innermost area (the big toe).

Physical activity: Any voluntary movement of the body that uses up energy. Some of the most common everyday physical activities are picking up school bags, skateboarding, playing catch, helping with chores at home and doing the shopping.

Physical fitness (physical condition): The ability or quality (resistance, flexibility, strength) needed to perform physical activities.

Sagittal plane: An imaginary plane that divides the body vertically into two symmetrical halves, left and right.

Scoliosis: Excessive lateral curvature of the spine.

Sedentary lifestyle: When someone is not physically active enough to stay healthy. Sedentary people are more prone to diseases than active people.

Serving: A standard portion of food.

Sport: Competitive physical activity regulated by a set of rules.

Supinated gait: The tendency of the ankles to lean outwards, resulting in the foot resting mostly on its outermost area (the little toe).

Transverse (or horizontal) plane: An imaginary plane that divides the body into two halves, superior and inferior.

12. ANSWER KEY

1. Let's revise (page 27):

Activity; **B**ack; **C**limbing; **D**iet; **E**at; **F**rozen; **G**reek; **H**eel counter; **I**ngredients; **J**udo; **K**cal; **L**osing imbalance; **M**arcos; **N**et weight; **O**besity; **P**osture; **Q**uadriceps; **R**esistance exercises; **S**leep; **T**emperature; **U**pper; **V**egetables; **W**ater; anore**X**ia; **Y**oghurt; free**Z**er.

If you've read *Marcos gets into trouble*, then you know Marcos, his sister Lucía and their family. Now they're going to keep you company as you learn some good habits to help you grow up strong and healthy. They also have some fun activities for you to do.

While you are having fun reading, it is important that you think about what foods make up a healthy diet, how often you should exercise, and what healthy habits should be part of your daily life.

This activity book is part of FUNDACIÓN MAPFRE's VIVIR EN SALUD project, which creates educational materials aimed at parents, children and adolescents, in addition to professionals in fields such as education and health care. VIVIR EN SALUD is for everyone and involves us all.

If you would like more information on VIVIR EN SALUD or wish to collaborate in its distribution or send us your suggestions, you can contact us through the following websites:

www.vivirensalud.com
www.fundacionmapfre.com
www.educatumundo.com

GOBIERNO DE ESPAÑA
MINISTERIO DE SANIDAD, SERVICIOS SOCIALES E IGUALDAD
agencia española de seguridad alimentaria y nutrición

estrategia naos
¡come sano y muévete!

ISBN 978-84-9844-330-1