LESSON 1

STORY TIME: Millions to Measure	
Management	SS get in a circle. T shows the cover, reads the title of the book and asks ss to predict what the book is about.
Language	I think it is about …. and ….. I agree with you / I don´t agree with you
Material	Millions to Measure by David Swartz's

UNDERSTANDING FROM THE BOOK	
Management	Read and stop to make ss predict and think: • How did people measure many years ago? To know about distance? Size? Weight? Volume? (Make a list of things on the board) • Why did measuring in (feet/stones,…) could cause confusion? • How tall are you? • How much do you weight? • Which countries use the metric system? Show in a map and ask which countries don't use the metric system (US, Liberia and Myanmar)
Language	To measure (distance) they used… I'm ….cm tall I weight…. kg

CLASSIFYING DIFFERENT UNITS OF MEASUREMENT	
Management	Display several word cards (**support Resources 1**) showing different units of measurement. SS decide which ones are from the metric system and which aren´t. In groups of 2 do **Worksheet 1**. Correct it together.
Language	A (litre) is a unit from the metric system A (yard) is not a unit from the metric system
Material	**Support Resources 1** **Worksheet 1**

LESSON 2

IMAGINE YOUR OWN SYSTEM OF MEASUREMENT	
Management	SS imagine that they live in a world where there are no systems of measurement. In worksheet 2, ss draw the different things they might use to create a system of measurement. SS explain why these objects would work or not.
Language	To measure (distance) we use …. We agree. We don't agree because…
Material	**Worksheet 2**

TRUE/FALSE GAME	
Management	Hang several metric system statements (**support resources 2**) around the classroom and read them aloud to make sure ss understand them. SS get in groups of 3. One of them walks around the classroom, reads the sentence, says it to his/her team and they all decide if the sentence is true or false.
Language	We think … The true sentences are… The false sentences are… We agree / We don´t agree
Material	**Support Resources 2** **Worksheet 3**

LESSON 3

METRIC SYSTEM SONG	
Management	First ss listen to the song then ask ss what it is about. Give ss the song, **worksheet 4**. Second ss listen and and read the lyrics to revise some vocabulary. Third give out the pieces of the song (**support Resources 3**) Listen to it again and ss stand up when they hear their piece. Finally ss put the song in order and stick it on the display. Revise the metric units **(support resources 4)**. Chose 7 volunteers and give one unit to each one of them. SS stand up and put them in order. The song might be practised everyday to start the class.
Language	K stands for Kilo H for Hecto D for Deka M is the basic unit Metres measures length Grams measures weight Liters measures capacity
Material	Metric System Song by Christina De Santo's. Math's Rocks Volume I. http://songsforteaching.com/mathrocks/usemetricsstreetstyle.htm **Worksheet 4** **Support Resources 3** **Support Resources 4**
Key	metric system / Monday / easy / for

MEASUREMENT TOOLS INVESTIGATION	
Management	Show students several measurement tools and review the names. SS mention objects from inside and outside the classroom that can be measured with them.
Language	I can measure the/my (table) with a/the …..
Material	Ruler, meter stick, metric tape, surveyor's tapes, trundle wheels.

VENN DIAGRAM. CLASSIFYING	
Management	Show several pictures of objects and measuring tools with the overhead projector. In groups of 3 ss have to decide how to classify the images. SS give reasons for their grouping.
Language	We think that… We agree/We don't agree.
Material	**Worksheet 5** (Venn Diagram for SS to fill in). Overhead projector, pictures
Key	There might be different (possible) answers. T classifies them depending on the measuring tool the objects can be measured with.

LESSON 4

RUN YOUR FINGER AND MAKE AN ESTIMATION	
Management	To activate previous knowledge, (T) ask students: SHOW ME WITH YOUR FINGER….how high is your table?, How wide is your book?, How long is your hair?, What's the height of the Bookshelf?, What's the width of the cupboard?, What's the lenght of your pencil? SS also make estimations in meters and centimeters.
Language	I think my (table) is …. cm high I believe my (book) is …. cm wide

POWER POINT SHOW WIDHT,LENGHT,HEIGHT	
Management	Show power point 1 to show width, lenght and height. SS make estimations of the highest buildings in the world. Next day Ss bring in pictures of other tall buildings and the rest guess their height, length, width.
Language	Can you recognize that building? Where is it? Can you estimate how tall is it? It is ….. m tall. It is ….cm tall. Big Ben is …….m tall. It is …. cm tall. You're right! You're nearly right! You're wrong!
Material	Power point

THE ESTIMATING GAME	
Management	SS get in pairs. Revise the game to make sure ss understand what they need to do. The game is played once with the whole class.
Language	It is ….. cm long. You're nearly right You are wrong.
Material	**Worksheet 6** White paper, rulers, metric tape

MORE THAN 1M, LESS THAN 1M, ABOUT 1M (faster ss)	
Management	In pairs SS complete the table in the worksheet.
Language	It measures (more/less/) than 1 m It is about 1m long
Material	**Worksheet 7**

LESSON 5

CAN YOU EXPLAIN THE METRIC SYSTEM? WORD MAP	
Management	Choose 7 volunteers and give each of them a flashcard with a metric unit. SS find the correct order. SS explain what they know abut it and about conversions. T shows a web page which explains conversions. In pairs ss fill in the word map. It is corrected together.
Language	(Dm) go before the (M) The right order is ….. To know how many (M) there are in a (Km) multiply by (100)
Material	Flashcards of the metric units http://www.mathplayground.com/howto_Metric.html **Worksheet 8**

CONVERTING QUIZ	
Management	S chooses the right option. In pairs, check answers. Correct it (all) together.
Language	There are ….. (cm) in a (m) There are …… (mm) in a (cm)
Material	**Worksheet 9**

WHAT IS ROUNDING? RULES FOR ROUNDING	
Management	First ask ss if they know what ROUNDING is. Second tell the short story about rounding **(support resources 5)** ss make estimations. Third explain what rounding is and the rules for rounding **(support resources 6).**
Language	I think that …
Material	**Support resources 5 and 6** **Overhead projector**

ROUNDING CHANT AND ROUNDING QUIZ	
Management	Display the chant (**support resources 7**), say it and ss learn it. Some volunteers repeat it in front of the classroom. SS do the rounding quiz online.
Language	(27) rounded to the nearest (ten) is (30)
Material	**Support Resources 7** Rounding quiz online www.bbc.co.uk

LESSON 6

MINI OLYMPICS	
Management	Tell ss they'll go to the playground to take part in a long jump event. In the playground ss get in line and start jumping one by one. A volunteer calculates the distance with a metric wheel and the rest write down the results. In the classroom ss complete **worksheet 10**.
Language	(Michael) jumped (1.2) meters. (I/he/she) jumped (1.4) meters.
Material	Metric wheel **Worksheet 10**

LOOP CARDS	
Management	Cut the loop cards (support resources 8) and give 2 to each ss. T starts and the ss continue the game. Write down the numbers *on* the board to make it easier.
Language	I'm number… Round it to the nearest (10/100/1000)
Material	**Support Resources 8**

LESSON 7

ROUNDING GAME	
Management	Explain the game once and play it with the whole class to make sure ss understand it.
Language	I've got number … It is your turn Throw the dice The winner is … I'm the winner !
Material	**Worksheet 11**

PAIR ASSESSMENT	
Management	Hand out the worksheets and read the instructions to make sure ss understand them. Walk around the classroom to help the ss if necessary.
Language	
Material	**Worksheet 12**

LESSON 8

WALKING AROUND	
Management	Take ss onto the school field or playground and ask them to walk around the perimeter of the football field. Explain that perimeter is a measurement of length. Point out that "peri" means "around" so in perimeter it means around the edge of a shape. SS sit in a circle and estimate the measurement of each side to calculate the perimeter. Then 8 ss (2 for each side) take a trundle wheel to measure each side. The other ss do the same to measure the basketball court. Finally ss get in a circle and complete the worksheet in groups.
Language	Peri means…. The longest side measures … meters The shortest side measures …. meters The sum of all the sides is …. meters The perimeter measures …. meters
Material	Trundle wheel **Worksheets 13,14**

BIG SHAPES IN THE PLAYGROUND	
Management	*First step*: give ss about 2 meters of elastic. Working in groups of six, ask ss to make 3 regular shapes. The fifth and sixth child walk around the perimeter of the shape, then measure it. Ss record their findings on the worksheet. *Second step*: One of the groups shows the rest a shape. Other ss get inside the shape to see how many kids are needed to fill in the shape. T points out that the footprints cover the area of the shape. The same process is done changing groups and figures.
Language	It is a (square/triangle/rectangle) The perimeter of the (triangle) is…. meters. We need ….students to fill in the area
Material	**Worksheet 15**

LESSON 9

SHAPE EXPLORER/ SHAPE BUILDER	
Management	Take ss to the ICT room and in pairs they play Shape explorer. (See web link below).They take turns. Then ss do the same using the shape builder.
Language	The area is… The perimeter is … Very good/ Good job/Excellent You're wrong/ It isn't the right answer
Material	www.shodor.org/interactivate/activities/ShapeExplorer/ www.shodor.org/interactivate/activities/ShapeBuilder/

LET´S INVESTIGATE PERIMETER MADE WITH 5 SQUARES	
Management	Show students 5 squares (Support Resources 9) and make them predict how many shapes and different perimeters they think they can make using the 5 squares. SS cut out the squares on their worksheet 16 and investigate. Each ss chooses on of the shapes they like the most and stick it on the display board. They also label their work "My shape has a perimeter of…"
Language	I think I can make ….. shapes. I think I can make…… different perimeters My shape has a perimeter of …..
Material	**Worksheet 16** **Support resources 9**

LESSON 10

POWER POINT AREA AND PERIMETER	
Management	Before presenting the power point 2 ss do the worksheet to find out what they know and predict the answers. SS check the answers while watching the ppt. At the end ss do the formulae worksheet.
Language	The perimeter is… The area is… I think that… I calculate the (perimeter/area) …
Material	**Worksheet 17** **Power Point 2** http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/perimeter_and_area/index.html **Worksheet 18**

LESSON 11

BARCELONA FROM THE AIR	
Management	T downloads Google Earth from the net. Type in Barcelona to watch the city from the earth. First, ss focus their attention on all the shapes of the buildings and structures they see. A couple of buildings from around the school are measured as an example. Second, in groups of 3, they choose a building from the city that they would like to measure. then do the **Worksheet** together. The information on the worksheets from the different groups is shared and the area and the perimeter are calculated.
Language	I see (triangles/squares/rectangles/circles…) There are (triangles/squares/rectangles/circles) This is a (triangle/square/rectangle/circle…) We chose this (building/structure) because… The area is… The perimeter is…
Material	Google Earth **Worksheet 19**

BARCELONA MEASURED UP	
Management	T divides the class into three groups. Give each group one of the images printed in (Support Resources and Worksheet). Ss answer the questions corresponding to their assigned image. When all the groups have completed this task, have groups trade images. Repeat steps until each group has calculated the perimeter and area for all the structures.
Language	Let´s calculate the (area/perimeter) The area in (meters) is …. The perimeter in (centimetres) is ….
Material	**Support Resources 10** **Worksheet 20**

LESSON 12

GOOGLE EARTH ACTIVITY	
Management	T takes ss to the computer room and explains how to use Google Earth and how to measure buildings or structures. SS are divided in groups of 3 and do some examples. T tells ss to prepare an activity for another group to do and explains the following steps: First, choose a country. Second, pick up a city from that country. Third, zoom in to a part of the city, pick up 3 buildings you like and record their measurements. Fourth, print out the image you zoomed in. Fifth take a marker to trace the height and the width of the three buildings you chose and write down their measurements. Finally, write down a question for each building related to area and perimeter. Ss prepare the worksheet and exchange it with another group.
Language	What's the height of…? What's the (width/area/perimeter) of …? Km/Hm/Dm/M/dm/cm/mm
Material	Computers Google Earth **Worksheet 21**

LESSON 13

GETTING READY FOR THE ARCHITECT VISIT	
Management	Ask ss "What does an architect do?" Imagine you could ask him/her questions "What would you ask?" Give ss the question cards (Support Resources). Ss get in pairs and role play. One s is the architect and the other s the interviewer. They can also add other questions.
Language	Language used in the Question Cards. Which …..do you use? Why do architects …… ? What do you need to ……? Do you use ……? What's the ……. ?
Material	Support Resources 13

INVITING AN ARCHITECT TO THE CLASSROOM	
Management	The architect brings floor plans of projects and, if possible, brings floor plans of buildings that the students might have seen. Ss ask the architect questions they've discussed before. Copy Question Cards (Support Resources 11) If you can't invite and architect, an adult volunteer can role play. He/She needs to prepare for it, by looking at the Support Resources below.
Language	Language used in the Question Cards. Which …..do you use? Why do architects …… ? What do you need to ……? Do you use ……? What's the ……. ?
Material	Floor Plans (Support Resources 11) Graphic symbols (Support Resources 12) Question Cards (Support Resources 13)

LESSON 14

PLANNING OUR DREAM HOUSE	
Management	Give ss the amount of land they have to build on, 200m² plus 100m² more if they have a garden. Before starting the Project ss, in groups of 3, need to make desicions on how many rooms the house has, items in each room, graphic symbols to use and sizes for each room. Give ss the graphic symbols. Copy **worksheets** 22, 23, 24 and 25 to put all the information on. See Dream House General Guidelines to tell the ss what to do (Support Resources)
Language	Our home has got (4) rooms. The (bedroom) has got (a mirror, a bed and a lamp). We used graphic symbols for …..
Material	**Worksheets 22-23-24-25** Graphic symbols (Support Resources 13) General guidelines (Support Resources 14)

DREAM HOUSE FLOOR PLAN	
Management	Hand out cm^2 paper to each group. T tells ss the scale drawing is $1cm^2=1m^2$. Using planning sheets done earlier ss work on their floor plans. T will supervise their work.
Language	<table><tr><td>Let's We've</td><td>put the</td><td>kitchen dinning-room bedroom bathroom</td><td>between beside opposite in</td><td>the … the corner the centre</td></tr></table>
Material	Rulers $1cm^2$ graph paper

LESSON 15

FLOOR PLAN PRESENTATION	
Management	Ss will have about 5 minutes to present their floor plan to the class. Each member in the group has tos say something about the project. There will be 5 min. for the rest of the class to ask questions. T writes the language needed for the presentation on the board so that ss can look at it and prepare their speech.
Language	Our house has got …… m^2 It has ….. rooms. (One)……, (one) …. (one)…. and (two) …… The biggest room is ……. It has ….. m^2 The smallest room is …… . It has ….. m^2 See language from lesson 14.
Material	SS floor plans

REFERENCE AND ACKNOWLEDGEMENTS