

THE SOLAR SYSTEM
Teaching Notes
UNIT 2

Raül Martínez Verdún

October-December 2009

TEACHING NOTES	THE SOLAR SYSTEM			
UNIT 2: THE PLANETS	SUBJECT: SCIENCE	LESSON 1: UNCOVERING THE PLANETS	TIMING: 60 MINUTES	COURSE: 6th GRADE
OUTLINE Start with a revision activity in which students complete orally a graphic organiser with some words missing. Then, to introduce unit 2 use a rhyme that leads to an uncovering acrostic activity. End the lesson with a matching activity to present new information plus an oral task to offer more input about the planets.				
ACTIVITY 1: <i>Can you help me?</i> Grouping: plenary				RESOURCES NEEDED
Choose a student as the "official writer". Show the students the incomplete graphic organiser using <i>Power Point</i> (slide 3, <i>Support teaching resources 2</i>) and encourage them to help you complete the diagram by saying the missing words. Ask the "official writer" student to write the words said by the students on the board. Then, show the completed graphic organiser using <i>Power Point</i> (slide 4, <i>Support teaching resources 2</i>). Finally, compare the words suggested by the students with those in the final diagram. Suggested sentences/questions used by the teacher when asking the students: <i>"Which word is missing here?"</i> <i>"And here? What do you think?"</i> <i>"What about...?"</i> <i>"Come on, try again!"</i>				STR 2 (Power Point, slides 3 and 4) Projector Computer Board
KEY SOLUTIONS (STR 2, Power Point, slide 3) <i>Words missing: 1-14; 2-the Universe; 3- 1 or 2; 4-Milky Way; 5-asteroids; 6-stars; 7-Sun; 8- moons; 9-Earth; 10-7</i>				
ACTIVITY 2: <i>Finding out!</i> Grouping: plenary				RESOURCES NEEDED
Show students <i>Power Point</i> (slide 5, <i>Support teaching resources 2</i>). By saying <i>"Can you say this rhyme?"</i> let the students repeat the rhyme aloud. Encourage them to think why this rhyme and why the first letter of each word is in bold. In case students don't know a word, tell them the meaning. Write students'				STR 2 (Power Point, slides 5 and 6)

<p>suggestions down on the board so they have visual written support. Then, show students <i>Power Point</i> (slide 6, <i>Support teaching resources 2</i>) and ask them to say one by one the words hidden in the acrostic, which have the same letters as those in bold from slide 5. As students say each word, uncover it and encourage them to repeat it aloud after you so as to practise pronunciation. Now, tell students unit 2 is about the planets.</p>	<p>Projector Computer Board</p>
<p>KEY SOLUTIONS (STR 2, Power Point, slide 6) M: Mercury; V: Venus; E: Earth; M: Mars; J: Jupiter; S: Saturn; U: Uranus; N: Neptune</p>	
<p>ACTIVITY 3: Matching facts Grouping: individual</p>	<p>RESOURCES NEEDED</p>
<p>Hand out <i>Worksheet 7</i>. Explain there are 9 boxes with interesting facts about the planets and the Sun and 9 more with the names of these. Ask the students to read the information carefully and tell them to match the boxes from the left with the ones from the right. Let the students know previously that the information given in <i>Worksheet 7</i> is almost all new for them so they think, identify and connect information. Ask them to compare their answers in pairs. Then, correct the photocopy orally with the whole group and write the answers on the board.</p>	<p>Worksheet 7 Board</p>
<p>KEY SOLUTIONS (Ws 7) 1-C; 2-B; 3-E; 4-D; 5-I; 6-G; 7-H; 8-F; 9-A</p>	
<p>ACTIVITY 4: Adding information Grouping: groups of four</p>	<p>RESOURCES NEEDED</p>
<p>Put the students into groups of four and hand out a slip of paper from <i>Sheets 6A</i> and <i>6B</i> (<i>Support teaching resources 2</i>) each. Ask the students to cut out each word from the box and use the list of key words provided to make a sentence by ordering them. Tell them the first word in the sentence is underlined and the last word has got a full stop; there can also be words joined together, so it means they put one after the another. One "speaker" from each group says the whole sentence aloud. Then, ask them which planet they think the sentence is about. Encourage the students to say things they already know about the planets and write them on the board. Take a piece of information from the board and write a sentence with it; e.g. if the students said "big planet" in reference to Jupiter, then you can write "Jupiter is a very</p>	<p>STR 2 (Sheets 6A and 6B) Board Scissors</p>

big planet". Ask the students to say which new words you added to the information they gave and underline them. Explain that, as in the example, you want them to make sentences that make sense. Suggest a set of starting sentences for each group to add new information orally so as to form complete sentences (each student adds at least one word). Encourage them to also create new ones orally. Remind students to put worksheets/slips in their portfolio.

Starting sentences proposed by the teacher on the board for each group:

"Mercury is the smallest..."

"Jupiter is the biggest..."

"The Earth..."

"Uranus has..."

"Saturn is the most..."

"Neptune is the farthest..."

"Mars is also called..."

"Venus is the second..."

KEY SOLUTIONS (STR 2, sheets 6A and 6B)

Planet 1: *Earth* (Oxygen in the atmosphere allows humans and animals to breathe); **Planet 2:** *Venus* (Its name comes from the Roman goddess of love); **Planet 3:** *Mercury* (It is the closest planet to the Sun); **Planet 4:** *Mars* (It is a red planet and has got craters); **Planet 5:** *Jupiter* (Its Great Red Spot is a giant storm); **Planet 6:** *Neptune* (It is the most distant planet from the Sun); **Planet 7:** *Saturn* (It has a big beautiful system of rings); **Planet 8:** *Uranus* (It starts with letter U and ends with S).

TEACHING NOTES	THE SOLAR SYSTEM			
UNIT 2: THE PLANETS	SUBJECT: SCIENCE	LESSON 2: LET ME KNOW MORE!	TIMING: 60 MINUTES	COURSE: 6th GRADE
<p>OUTLINE</p> <p>Introduce lesson 2 with an example on a power point slide. Then, through an ICT-based activity, let the students discover new key facts about the planets by themselves. By doing these tasks, students construct their knowledge about the planets using the internet as a means of getting information and helping them to develop some learning skills (locating, organising and</p>				

interpreting information as well as identifying key vocabulary and communicating).	
ACTIVITY 1: <i>Let's take a look!</i> Grouping: plenary	RESOURCES NEEDED
Show the students <i>Power Point</i> (slide 7, <i>Support teaching resources 2</i>) and say " <i>What can you see in this frame?</i> " Discuss the students' suggestions and comment on every key fact displayed about the Sun in the example shown. Ask the students why this information is in the frame and encourage them to predict what the next activity is about. Explain that you showed them the slide because this is what has to be done next but with planets.	STR 2 (Power Point, slide 7) Projector Computer
ACTIVITY 2: <i>Approaching the planets</i> Grouping: groups of three	RESOURCES NEEDED
Put students into groups of three and hand out a slip of paper from <i>Sheets 7A, 7B, 7C and 7D</i> (<i>Support teaching resources 2</i>) each. There are eight different slips according to the eight planets so that each group concentrates on a planet. Write on the board these three websites: http://amazing-space.stsci.edu/eds/tools/topic/solarsystem.php http://solarsystem.nasa.gov/planets/index.cfm http://www.enchantedlearning.com/subjects/astronomy/ Tell the students to use the links above to complete the grid given as in the PPT slide example. Suggest taking a look at the three websites before getting the information in order for students to know where they can get it from. Tell them these links don't lead them to the exact page about the planet they want but to a general one in which the name of all the planets can be read; they just need to look for theirs and click on to get the information. Students don't need to get the information from all three websites since it depends on their website preferences. Tell them there are some differences from one website to another but all are acceptable. Each student searches for at least one piece of information from the ones suggested, but not necessarily from a different website. Help the students when needed if they can't find the information on the internet.	STR 2 (Sheets 7A, 7B, 7C and 7D) Computers Internet Board
KEY SOLUTIONS Because the three websites listed show small differences in the results, there is no <i>Key Solutions</i> on display. All of them can be accepted.	

ACTIVITY 3: Hot seat! Grouping: groups of three/plenary	RESOURCES NEEDED
<p>Tell students to stay in the same groups of three. Ask a group to sit in front of the class to answer questions about their research. Then, ask another group to sit in the "hot seat" and so on until the eight finish. Students ask each member of the group so as the three of them participate. Students in the "hot seat" can look at their completed grids. Scaffold the question/answer activity with some language support on the board. Let the students suggest other suitable questions/answers. Remind students to put worksheets/slips in their portfolio.</p> <p>Suggested questions to be written on the board:</p> <p><i>"How old is your planet?"</i></p> <p><i>"What is the distance between the Sun and your planet?"</i></p> <p><i>"How long is a day on your planet?"</i></p> <p><i>"What's the temperature?"</i></p> <p><i>"How big is your planet?" "Is it bigger than the Earth?" "Is it smaller?"</i> (if it is the Earth group, then suggest a comparison with another planet)</p> <p><i>"Can you say any interesting feature about the planet you worked on?"</i></p> <p>Suggested answers to be written on the board also:</p> <p><i>"Our planet/(name of the planet) is...years old"</i></p> <p><i>"The distance between our planet/(name of planet) and the Sun is...million km"</i></p> <p><i>"A day on our planet/(name of planet) takes...hours"</i></p> <p><i>"The temperature on our planet /(name of planet) is...°C"</i></p> <p><i>"Our planet/(name of planet) is/isn't very big. It is bigger/smaller than the Earth"</i></p> <p><i>"What I can say about (name of planet) is that..."</i> (open)</p>	<p>STR 2 (Sheets 7A, 7B, 7C and 7D) Board</p>

TEACHING NOTES	THE SOLAR SYSTEM			
UNIT 2: THE PLANETS	SUBJECT: SCIENCE	LESSON 3: DIGGING DEEPER	TIMING: 60 MINUTES	COURSE: 6th GRADE
<p>OUTLINE</p> <p>Give the students tools to carry on building their knowledge. Suggest a bet game to revise the contents worked on so far. Continue with a collaborative reading for students to get more data about the planets. A whole-group swap interview closes lesson 3 where students identify, organise and classify data.</p>				
<p>ACTIVITY 1: <i>I bet you can!</i></p> <p>Grouping: groups of three</p>			<p>AFL Activity (1)</p>	<p>RESOURCES NEEDED</p>
<p>To start lesson 3, students play a game. Put the students into groups of three (the same as in the last lesson) and hand out <i>Worksheet 8</i>. There are eight sentences with general information about the topic. One by one, ask them to say if the sentences are true or false. Draw a chart on the board (see <i>Sheet 8</i> from <i>Support teaching resources 2</i>) and explain that each group is given 100 points. Then, for each sentence students bet a certain amount of their budget, but never more than what they have. If students are wrong in saying "true" or "false", they lose the money bet, so take it away from their budget; if students are right in saying "true" or "false", add the money bet to their budget (do the mathematical operations in the corresponding grids of each group/sentence). At the end of the game, the group with the most money wins.</p>			<p>Worksheet 8 STR 2 (Sheet 8) Board</p>	
<p>KEY SOLUTIONS (Ws 8)</p> <p><i>Sentences:</i> S1-True; S2-False; S3-True; S4-False; S5-False; S6-False; S7-True; S8-True</p>				
<p>ACTIVITY 2: <i>Trio dictation</i></p> <p>Grouping: groups of three/plenary</p>			<p>RESOURCES NEEDED</p>	
<p>Ask the students to stay in the same groups of three. Cut and hand out the slips of paper from <i>Worksheets 9 (A-L)</i>. Each student in the group holds a slip with the same planet in the title (the same planet as worked on in lesson 2). Tell them the three slips contain the same text but there is some information missing which is different in each case. Ask the students to do a collaborative reading where each one dictates the part of the text the other two don't have. One student from each group reads the completed text to the rest of the</p>			<p>Worksheet 9 (A-L)</p>	

group.	
KEY SOLUTIONS (Ws 9 A-L) See <i>Sheets 9A – 9C</i> from Support teaching resources 2	
ACTIVITY 3: <i>Why don't we swap?</i> Grouping: pair work/plenary	RESOURCES NEEDED
Hand out <i>Worksheet 10</i> . Ask the students to interview a partner from each of the groups from the last two activities to get the information needed. Write on the board " <i>Which is your planet?</i> " in order for them to ask each interviewee and not to repeat the same planet. Both activity 1 and 2 from this lesson are suitable to help them answer, so let them keep at hand the slips of paper used. They use the box in the sheet as a language support to remember the planets to ask about. Ask students to read their answers aloud and compare possible differences. Discuss them with the students. Remind students to put worksheets/slips in their portfolio.	Worksheet 10 Board

TEACHING NOTES		THE SOLAR SYSTEM		
UNIT 2: THE PLANETS	SUBJECT: SCIENCE	LESSON 4: NUMBER QUIZ	TIMING: 60 MINUTES	COURSE: 6th GRADE
OUTLINE Relate this lesson with Maths (+, -, x and :). Students deal with reduced versions of the texts worked on in lesson 3 (revision of concepts and identifying information). Suggest a number quiz with the same groups of three as in lessons 2 and 3 (activity 2, parts I and II). Act as a walking resource helping students when needed. Give the students feedback at the end of the lesson through an oral activity.				
ACTIVITY 1: <i>Reading together!</i> Grouping: groups of three				RESOURCES NEEDED
Show students <i>Power Point</i> (slide 8 from <i>Support teaching resources 2</i>). There are some examples of the four basic mathematical operations (+, -, x and :); show them the connections between these mathematical symbols and their				STR 2 (Sheets 10A)

<p>word in English; ask them to repeat the words in English aloud. Put the students into the same groups of three as in previous lessons. Hand out the slips of paper from <i>Sheets 10A</i> and <i>10B</i> (<i>Support teaching resources 2</i>). Give the students two minutes to read the questions from each slip. Say "Time" every two minutes and students change the slip so that they are able to read all five (approximately 8-10 minutes).</p>	<p>and 10B) STR 2 (Power Point, slide 8)</p>
<p>ACTIVITY 2: Stand up, sum up! (PART I) Grouping: groups of three</p>	<p>RESOURCES NEEDED</p>
<p>Stick on the class walls the slips of paper from <i>Sheets 11A</i> and <i>11B</i> (<i>Support teaching resources 2</i>). Explain there are some texts with information connected to the answers from <i>Sheets 10A</i> and <i>10B</i> given previously. Hand out <i>Worksheet 11</i> to each group. Ask the students to stand up and in groups of three to answer the questions (each group works at its own pace). Tell them letters/numbers in bold from the texts can help them.</p>	<p>STR 2 (Sheets 11A and 11B) Worksheet 11 Projector Computer</p>
<p>KEY SOLUTIONS (Ws 11) See <i>Sheet 12</i> from <i>Support teaching resources 2</i>.</p>	
<p>ACTIVITY 2: Stand up, sum up! (PART II) Grouping: groups of three</p>	<p>RESOURCES NEEDED</p>
<p>Hand out <i>Worksheet 12</i> to each group. Students complete the grid given by using the results from worksheet 11. Check the answers with <i>Sheet 13</i> from <i>Support teaching resources 2</i>. If the answers are correct, the first group to finish wins; if the answers are wrong, tell them where they failed and to revise whether the mathematical operation done (worksheet 12) or the answer given previously (worksheet 11) to get the correct number.</p>	<p>Worksheet 12</p>
<p>KEY SOLUTIONS (Ws 12) See <i>Sheet 13</i> from <i>Support teaching resources 2</i>.</p>	
<p>ACTIVITY 3: Giving feedback Grouping: plenary</p>	<p>RESOURCES NEEDED</p>
<p>Read one by one all the questions from <i>Sheets 11A</i> and <i>11B</i> and ask the students to answer them aloud (they look at worksheet 11). Show students <i>Power Point</i> (slide 9 from <i>Support teaching resources 2</i>) with the answers in order for them to have visual support. Then, correct worksheet 12 with the whole group aloud by showing the students <i>Power Point</i> (slide 10 from</p>	<p>STR 2 (Power Point, slides 9 and 10)</p>

<p><i>Support teaching resources 2</i>); do not show the answer but the letter of the question. Wait for their answer and then, uncover it. Clarify any of the questions/answers when needed. Remind students to put worksheets/slips in their portfolio.</p> <p>Suggested questions used by the teacher when asking the students from <i>Power Point</i> (slide 10, <i>Support teaching resources 2</i>):</p> <p>"What is the result for question number 1?"(and so on until 13)</p> <p>"What have we got in number 2?"</p> <p>"What about number 3?"</p> <p>Suggested sentences used by the students when answering <i>Power Point</i> (slides 9 and 10 from <i>Support teaching resources 2</i>) and worksheets 11 and 12 (to be written on the board):</p> <p>"Letter A is..."(and so on until Y)</p> <p>"The answer for letter B is..."</p> <p>"We've got...for letter C"</p> <p>"Question number 1 is..."(and so on until 13)</p> <p>"The result for number 2 is..."</p> <p>"We've got...in number 3"</p>	<p>STR2 (Sheets 11A and 11B)</p> <p>Worksheet 11</p> <p>Worksheet 12</p> <p>Board</p> <p>Projector</p> <p>Computer</p>
<p>KEY SOLUTIONS (Ws 11 and Ws 12)</p> <p>See <i>Power Point</i> (slides 9 and 10 from <i>Support teaching resources 2</i>) or <i>Sheets 12 and 13</i> (<i>Support teaching resources 2</i>).</p>	

<p>TEACHING NOTES</p>	<p>THE SOLAR SYSTEM</p>			
	<p>UNIT 2: THE PLANETS</p>	<p>SUBJECT: SCIENCE</p>	<p>LESSON 5: ACROSS THE UNIVERSE</p>	<p>TIMING: 60 MINUTES</p>
<p>OUTLINE</p> <p>Start lesson 5 with a little experiment based on galaxies. Then, watch a video about the Universe. In a second watching of the video, students identify and make choices with both already known and unknown vocabulary in a group activity. Students do two more follow-up activities just to get familiar with some important issues about the Universe such as galaxies, asteroids, nebulae, comets, constellations and stars, to reinforce the work done so far.</p>				

ACTIVITY 1: <i>Expanding Universe</i> Grouping: individual	RESOURCES NEEDED
<p>Show students <i>Power Point</i> (slide 11, <i>Support teaching resources 2</i>). Ask the questions one by one but do not show the answers. Wait for the students' answers and then, uncover them. Show <i>Power Point</i> (slide 12, <i>Support teaching resources 2</i>). Discuss with students the expansion facts in the Universe shown in the slide. Tell students they are going to do a little experiment. Hand out a balloon to each student. Follow the instructions from <i>Sheet 14</i> (<i>Support teaching resources 2</i>) to do the experiment whereas give instructions to the students (thus students have visual support). Do not say to the students what the balloon represents neither what are the spots on it; wait for the last activity to give these pieces of information. Ask them: "<i>Can you imagine what the experiment is for?</i>" "<i>Do you guess what do both the balloon and the dots on it represent?</i>" Write their suggestions on a corner on the board but do not answer them.</p> <p>Classroom language to be used throughout the activity when giving instructions: "<i>Half-blow</i>", "<i>Draw...</i>", "<i>Finish blowing...</i>", "<i>Look at...</i>", "<i>Hold...</i>", "<i>Tie...</i>"</p>	<p>25 balloons Marker pen STR 2 (Sheet 14) STR 2 (Power Point, slides 11 and 12) Projector Computer</p>
ACTIVITY 2: <i>Journey to the Edge of the Universe!</i> Grouping: plenary	RESOURCES NEEDED
<p>Ask the students "<i>Do you want to do a trip across the Universe?</i>" Tell them to imagine they are in a space capsule ready to leave from Earth. Encourage the students to say all kind of things they would see in the Universe and write them down on the board (allow mother tongue). Show them a 6-minute video about the Universe, galaxies, stars, nebulae, planets, etc. The link for the video is: http://www.youtube.com/watch?v=Zr7wNQw12l8&feature=related</p> <p>Compare the things students said with the issues that appeared in the video and discuss them aloud together with students.</p>	<p>Projector Computer Internet Board</p>
ACTIVITY 3: <i>Make your choice!</i> Grouping: groups of three	RESOURCES NEEDED
<p>Put the students into groups of three. Cut out, laminate and hand out the flashcards from <i>Sheets 15A, 15B</i> and <i>15C</i>. Show the video again (see</p>	

<p>reference in Activity 1 for the video link). Ask the students to identify and choose the flashcards with the words that appear in the video. Then, encourage the students to line the flashcards up in order of appearance. Check their choices aloud and stick a corrected group's flashcards on the board for the others to have visual support. Ask the students to think why they dealt with these flashcards and why they saw such a video. Write their suggestions on the board and discuss these altogether. Tell them lesson 5 is a very brief look at galaxies, stars, nebulae, comets, constellations and asteroids, as parts of the things existing in the Universe.</p>	<p>STR 2 (Sheets 15A, 15B and 15C) Projector Computer Internet Board</p>
<p>KEY SOLUTIONS (STR2, Sheets 15A, 15B and 15C) Flashcards in order of appearance: <i>Sun, Gas giant, Galaxies, Planets, Stars, Nebulae, Milky Way</i></p>	
<p>ACTIVITY 4: <i>Beyond the Universe</i> Grouping: groups of three</p>	<p>RESOURCES NEEDED</p>
<p>Put the students into the same groups of three. Hand out the slips of paper from <i>Worksheets 13A, 13B and 13C</i>. Each student reads two short texts from the boxes; ask them to explain briefly to each member of the group what the texts are about (allow mother tongue, but write down on the board some sentences in English so they try). Hand out <i>Worksheets 14A and 14B</i> to each group. Ask students to cut out the pictures and stick them in the empty boxes according to the item described. They write the name of the each item in the blank provided. Correct the exercise by showing the students <i>Power Point</i> (slides 13, 14 and 15 from <i>Support teaching resources 2</i>); show them the picture and ask them to say its name aloud.</p> <p>Suggested sentences for the students to use when explaining the text read (to be written on the board):</p> <p><i>"(Name of the item) are small/big..."</i> <i>"...adopt different forms such as..."</i> <i>"...are made up of..."</i> <i>"...have different parts such as..."</i> <i>"We can see them..."</i> <i>"There are different types of (name of the item)..."</i> <i>"... look like..."</i></p>	<p>Worksheet 13A Worksheet 13B Worksheet 13C Worksheet 14A Worksheet 14B STR 2 (Power Point, slides 13, 14 and 15) Scissors Glue Projector Computer</p>
<p>KEY SOLUTIONS (Ws 13A, Ws 13B, Ws 13C, Ws 14A and Ws 14B) Connection between boxes and pictures: 1-C; 2-E; 3-D; 4-B; 5-F; 6-A</p>	

Names of the boxes: 1-Stars; 2-Comets; 3-Asteroids; 4-Galaxies; 5-Constellations; 6-Nebulae	
ACTIVITY 5: <i>Identifying keys</i> Grouping: groups of three	RESOURCES NEEDED
Put the students into the same groups of three. Hand out <i>Worksheet 15</i> and ask them to complete the grid given. They can use the flashcards from the previous activity to do this exercise. Correct the answers with the whole group aloud and write them down on the board so the students have visual support. Ask them to get the balloon; then refer to their previous suggestions written on the board and ask the students if they know what the balloon represents and what the dots are. If not, tell them. Remind students to put worksheets/slips in their portfolio.	Worksheet 15 Board
KEY SOLUTIONS (Ws 15) 1-Stars; 2-Asteroids; 3-Nebulae; 4-Constellations; 5-Galaxies; 6-Comets	

TEACHING NOTES	THE SOLAR SYSTEM			
UNIT 2: THE PLANETS	SUBJECT: SCIENCE	LESSON 6: MAKING THE SOLAR SYSTEM	TIMING: 60 MINUTES	COURSE: 6th GRADE
OUTLINE Relate this lesson to Art and Maths. Place all the materials needed to make a Solar System on the teacher's table (see <i>Resources needed</i> from Activity 1). Start the lesson with a recognition activity in which students identify some key vocabulary. Continue with a brainstorming activity. Then, start making the Solar System with students. End the lesson with an oral activity by means of which students remember quick facts about the planets, using the portfolio papers to help them.				
ACTIVITY 1: <i>Recognizing key vocabulary</i> Grouping: pair work/groups of three/plenary				RESOURCES NEEDED
Cut and hand out a slip of paper from <i>Sheet 16 (Support teaching resources 2)</i> to half of the students. Hand out the materials to the other half. Tell the students to find a partner whose word from the slip corresponds with the material by asking and answering in English. Check orally if the "pairs" are correct. Then, put the students into the same groups of three as in previous lessons and hand out <i>Worksheet 16</i> . Give them a few minutes to get familiar with the new vocabulary learnt (visual support); say the name of the materials				Crayons Felt-tip pens Black poster paper

<p>aloud and ask the students to point them out. To finish, use realia to consolidate the vocabulary: show them the materials and they say their names aloud. Suggested sentences for the students with materials when trying to find their partner (on the board):</p> <p><i>"What have you got on your paper?"</i></p> <p><i>"Do you have...?"</i></p> <p><i>"My word is..."</i></p> <p><i>"I've got...on my paper."</i></p> <p>Suggested sentences for the students with slips when trying to find their partner (on the board):</p> <p><i>"Is... the name of your material?"</i></p> <p><i>"Do you have...?"</i></p>	<p>Two compasses</p> <p>White paper</p> <p>Cotton wool</p> <p>Coloured tissue paper</p> <p>Glue</p> <p>Scissors</p> <p>STR 2 (Sheet 16)</p> <p>Worksheet 16</p> <p>Board</p>
<p>KEY SOLUTIONS (STR 2, sheet 16; Ws 16)</p> <p>See <i>Sheet 17</i> from <i>Support teaching resources 2</i> to check the connection between some materials and their written form.</p>	
<p>ACTIVITY 2: <i>What is it for?</i></p> <p>Grouping: groups of three/plenary</p>	<p>RESOURCES NEEDED</p>
<p>Ask the students to think what they could do with such materials. Ask each group about their ideas and write them down on the board so the students have visual written support. Discuss the students' ideas leading them to what the new activity is about.</p>	<p>Board</p>
<p>ACTIVITY 3: <i>Making the Solar System</i></p> <p>Grouping: groups of three</p>	<p>RESOURCES NEEDED</p>
<p>Put the students into the same groups of three. Explain they are going to make the Solar System. Each group concentrates on their planet. If possible, stick the black poster paper (3m x 80cm) on one wall and draw a section of the Sun (see <i>Power Point</i>, slide 2 from <i>Support teaching resources 2</i>). If not, cut the black paper to fit each of the separate planets to go in any space on the classroom wall. In this case, the Sun is on a separate sheet, and can be drawn as a full circle (not to scale). First of all, the students need to work out the size of their planet (to scale). Write on the board the formula to work out the size: real diameter divided by 2000. E.g. Earth's diameter is 12,760 km; so $12,760 : 2000 = 6,38$. This gives a measurement in centimetres. Students</p>	<p>(See Activity 1)</p> <p>STR 2 (Sheets 7A - 7D)</p> <p>Board</p>

<p>need to refer to <i>Sheets 7A – 7D (Support teaching resources 2)</i> from the portfolio to get the real diameter. Students get some white paper and draw their planet to scale; then cut it out. They think about the features of their planet and colour and/or decorate it using the materials suggested above. Groups with smaller planets help colour and decorate the Sun. When finished, help them to stick the planets in order on the black sheet or on separate black sheets around the room.</p> <p>Classroom language to be used throughout the activity when giving instructions: <i>"Cut out..." , "Prepare..." , "Stick ..." , "Put..." , "Place..." , "Use" , "Get..."</i> <i>"Colour in..."</i></p>		
<p>ACTIVITY 4: <i>My portfolio!</i> Grouping: groups of three</p>	<p>AFL Activity (2)</p>	<p>RESOURCES NEEDED</p>
<p>Put the students into groups of three. Explain they are going to work with the portfolio papers so ask them to take them out. Give the students 5 minutes to revise all the information about their planet they have on their papers; then, ask them to stand close to the planet they made and in 1 minute say as many things as they remember about their planet. Remind them it does not matter whether their oral production is limited to a word or more. Count aloud the correct items said by students and write the final number on the board. The group with most items wins. Remind students to put worksheets/slips in their portfolio (see <i>Portfolio</i> in the 'Introduction').</p>	<p>Portfolio papers Board</p>	

TEACHING NOTES	THE SOLAR SYSTEM			
UNIT 2: THE PLANETS	SUBJECT: SCIENCE	LESSON 7: CONSOLIDATING KNOWLEDGE	TIMING: 60 MINUTES	COURSE: 6th GRADE
<p>OUTLINE</p> <p>Last lesson from unit 2 is to consolidate knowledge and to officialise the learning/teaching process through some assessment activities. Start the lesson with an AFL activity in which students play a game template. Continue with a short test. Then, in pairs, students get fun by calculating their ages in other planets. End up with a self-assessment activity.</p>				

ACTIVITY 1: <i>Game template</i> Grouping: groups of three	AFL Activity (3)	RESOURCES NEEDED
<p>Put the students into groups of three. Hand out <i>Worksheets 17A</i> and <i>17B</i>. Explain they are going to revise some concepts from unit 2 "The planets" by playing a game. There is a photocopy with 24 squares and sentences (Ws 17A) which is connected with another with 24 blank squares (Ws 17B). Ask students to choose a "teacher" in each group to write answers in the blank squares; the other two read the sentences and give answers aloud. Throw the 4 dice on the table and write the numbers on the board. Tell the students to make their choices by adding or subtracting the number on the dice so as to get a square according to the number calculated. Give them 2 minutes to write their answer and then throw the dice again. Every two times the dice are thrown, students change their role in the group. Students do not need to fill in all the blanks. Wait 15 minutes until finishing the game. Correct the exercise aloud along with the students. Then, show students <i>Power Point</i> (slide 16 from <i>Support teaching resources 2</i>) to check their answers. Make comments on these altogether.</p>		Worksheet 17A Worksheet 17B STR 2 (Power Point, slide 16) 4 dices Board Projector Computer
KEY SOLUTIONS (Ws 17B) See Support teaching resources 2 (slide 16)		
ACTIVITY 2: <i>Testing what you know</i> Grouping: individual	AOL Activity (1)	RESOURCES NEEDED
<p>Hand out <i>Worksheets 18A, 18B</i> and <i>18C</i>. Explain to the students they are going to do a short test to check what they have learnt so far. It is meant to be done individually and in silence, without them being allowed to look at any paper from the Portfolio. When finished, ask the students all the questions aloud and encourage them to answer (whole group correction first without the worksheets; individual correction afterwards).</p>		Worksheet 18A Worksheet 18B Worksheet 18C
KEY SOLUTIONS See <i>Sheets 18A, 18B</i> and <i>18C</i> (<i>Support teaching resources 2</i>).		
ACTIVITY 3: <i>How old are you?</i> Grouping: pair work	RESOURCES NEEDED	
<p>Ask the students how old they are and write some of their answers down on the board. Tell them this is true for planet Earth, but ask if they think it would be the same on other planets. Ask students if they liked to know how old they</p>		

<p>would be on other planets. Put them in pairs and hand out <i>Worksheets 19A</i> and <i>19B</i>. Students follow the instructions specified in the worksheet to complete the exercises. Help them by writing down on the board an example of how to calculate a person’s age on other planets (there is one in worksheet 19A). Then, tell them to use more than one personal pronoun when completing the sentences from the substitution table exercise (they ask each other in turns and are expected to use I/you). Ask them to stand up and ask some other classmates about their ages on other planets (they keep the papers with them; just orally). Ask them about their ages on other planets and lead them to use other personal pronouns such as “<i>We</i>”, “<i>You</i>”, “<i>They</i>”, etc.</p> <p>Suggested questions for the students to use when asking other classmates (to be written on the board):</p> <p><i>“How old are you on (name of a planet)?”</i> (To be used “I” and “You”)</p> <p><i>“How old is your partner on (name of a planet)?”</i> (To be used “She/he”)</p> <p>Main structure worked throughout the activity:</p> <p><i>“On (name of a planet) I am...years old.”</i></p>	<p>Worksheet 19A Worksheet 19B Calculator Board</p>	
<p>KEY SOLUTIONS (Ws 19B)</p> <p>These results have been calculated supposing 12 as the age of students: Mercury-50 years old; Venus-19; Earth-12; Mars-6; Jupiter-398; Saturn-151; Uranus-52; Neptune-26</p>		
<p>ACTIVITY 4: <i>Self-assessment</i></p> <p>Grouping: individual</p>	<p style="text-align: center;">AFL Activity (4)</p>	<p style="text-align: center;">RESOURCES NEEDED</p>
<p>Hand out <i>Worksheet 20</i>. Explain to students they are going to do a very short self-assessment exercise. Ask them to read all the items from the sheet carefully and then answer. Make general comments on it with the whole group. Remind students to put worksheets/slips in their portfolio.</p>	<p>Worksheet 20</p>	