

Maths Prodigies

Topic

Child prodigies, homeschooling

Aims

- To review vocabulary related to school subjects
- To practise speaking skills
- To practise reading skills
- To review past tenses

Age group

12- 17

Level

B1 / B2

Time

60 – 90 minutes

Materials

1. Maths Prodigies student worksheet
2. Internet links: <http://www.theguardian.com/education/2010/jan/07/cambridge-university-14-arran-fernandez> - Read more about Arran here
<http://www.home-schooling-uk.com/> - Website about home schooling
http://en.wikipedia.org/wiki/Ruth_Lawrence - Find out more about Ruth Lawrence
http://en.wikipedia.org/wiki/Riemann_hypothesis - Brief overview of the Riemann Hypothesis

Introduction

This lesson offers a variety of activities based on child maths prodigies. Task 1 is a warm up activity that revises names of school subjects and introduces the topic of education. In task 2 students prepare questions to ask the teacher about his/ her education and life. In task 3 students read about and compare two maths prodigies; Arran, who has recently been offered a place at Cambridge at the age of 14 and Ruth, who went to Oxford at age 13 in the 1980s. In task 4 students complete time lines for the maths prodigies to check their comprehension of the text. In task 5 students make time lines for the teacher and then for themselves. Task 6 is more suitable for higher levels. It asks learners to read comments about Arran on a university website and then to give their opinions on these comments.

Procedure

<p>1. Task 1 – School subjects: Anagrams</p>	<p>Ask students to make school subjects from the anagrams. Early finishers can invent more anagrams for their classmates to sort. Ask your students if they have a favourite school subject. Tell them about your favourite subject when you were at school. Mention what you were good and bad at.</p> <p><i>Answers:</i></p> <p>1 THAMS - MATHS</p> <p>2 SISCPYH - PHYSICS</p> <p>3 TRYMISECH - CHEMISTRY</p> <p>4 GOLYIBO - BIOLOGY</p>
<p>2. Task 2 – Education and ages</p>	<p>A) Ask students to match each education stage or activity with an approximate age. The ages will vary from country to country. Ask if they know of any examples of people doing these things at unusual ages or being educated in a different way, e.g., homeschooling. Write 'GCSE' and 'A- Levels' on the board. Ask at what age these school exams are usually taken (at 16 and 18) in Britain. Ask if there are equivalent exams in the host country.</p> <p>B) With a lower level class elicit questions for students to ask you about your education and write them on the board - then have students ask you the questions. With higher levels encourage students to ask you questions and tell them about your experiences of education. Add other details, e.g., your gap year, if appropriate. You could ask what they know about university entrance procedure in their country and compare it with your experience in Britain.</p>

3. Task 3 – Reading: Maths prodigies	<p>Ask students to read and explain the title. What is a ‘prodigy’? Do they know any stories about maths prodigies? Tell students that they are going to quickly read about Arran and Ruth and find three things that they have in common (both accepted at university when very young, both home schooled, both like maths). Set a time limit of 5 minutes. Tell students that they will read the texts in more detail later.</p>
4. Task 4 – Time lines	<p>Explain that each number is in chronological order. Do numbers 1 and 2 for Arran as a class to help students get started. Then students work in pairs to complete the time lines.</p> <p><i>Answers:</i></p> <p>Arran</p> <p>1 - 1996 (<i>working backwards from 2001, when he was five</i>)</p> <p>2 - 5</p> <p>3 – 2003</p> <p>4 – 14</p> <p>5 - <i>find a solution to the Riemann hypothesis</i></p> <p>Ruth</p> <p>1 – 8</p> <p>2 – 1981</p> <p>3 – 13</p> <p>4 – 19</p> <p>5 – 1996</p> <p>6 – 1997</p> <p>7 - <i>grow up ‘normally’.</i></p>
5. Task 5 – Make a time line	<p>A) Draw an arrow on the board to represent your time line. Ask your students what they can remember about your education (from task 3) and together build up your time line. Keep it simple for lower levels, e.g., 4 or 5 sentences with ages or dates and give lots of help with past tense verbs. For higher levels include more complex language and your ambitions (invented if necessary). Include some more education events in your timeline too.</p> <p>B) Have students write their own time lines in the box. You could make a list on the board of life events to include, e.g., when you were born, when siblings were born, when you got a pet, holidays, visiting famous places, sports events, starting nursery school/</p>

primary school/ secondary school, meeting your best friend. They can invent if they want to. Put students in groups to compare how similar/ different their time lines are. Have a few students tell the class about any of these similarities or differences that they found in their group. Encourage students to focus on correct use of past tenses here and correct when necessary.

You could expand this for classroom display by getting students to bring in photos or cut out pictures to illustrate their time lines and make into mini posters, or set this as a homework activity.

6. Task 6 – What the students say

A) This task is suitable for higher levels or students who want more of a challenge.

Tell the class that they are going to read some comments from a website for Cambridge University students. Remind them that this is the university that has accepted Arran.

Before they read, ask your learners what kind of things existing students might say about a 14-year –old joining the university. Write ideas on the board. Ask them to then read the comments quickly to see if their ideas were correct. Students can then read in more detail (using the glossary if necessary) and circle the appropriate option in the ‘your opinion’ column. Put students in pairs to compare and explain their opinions. You could ask two or three students to share their opinions with the class. Encourage them to justify their ideas.

B) To finish off, students can invent more comments to add to the web site then swap papers with a partner, read the new comment/s and complete the ‘your opinion’ column.

Contributed by

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