MATHEMATICS EDUCATION AND OUTREACH WITH DR JAMES TANTON

TALKING POINTS

KNOWLEDGE:

1. What key aim lies behind the creation of the Global Math Project?

COMPREHENSION:

2. How would you describe the ways in which James' motivations differ from those of his teacher when he was at high school?

3. Can you explain what makes Exploding Dots a relatively unique way of helping students learn about mathematics?

APPLICATION:

4. What would you do if you were struggling to answer a particular maths problem?

5. How might you feel if you knew the answer to a particular maths problem but did not understand why that was the answer? Can you see the importance of understanding the why as well as the what?

ANALYSIS:

7. Compare the methods of teaching maths that James believes in with those that you have experienced in your life. Are there any similarities? Are there differences?

SYNTHESIS:

8. How effective do you think it is to present a visual understanding of a maths principle, technique or problem? Can you think of any benefits to visual presentation as opposed to a written question?

EVALUATION:

9. Do you believe in what it is that James is trying to do? Why do you think it might be important to inspire people around the world to learn about maths?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

- Imagine you are teaching maths to a class of 15 students, all with varying abilities and levels of interest. Devise a 30-minute lesson plan that is designed to ensure that everyone is involved from beginning to end. How would you help everyone understand the reasons why? Perhaps you could even share your plan with some classmates and see what they think!

- Visit the Exploding Dots website and work through the tasks. There are 12 areas for exploration, so take your time (although it is designed to be a quick introduction to some mathematical principles). Once you have finished, think about what you have learned and how the methods differed from what you might be used to in maths class.
https://globalmathproject.org/exploding-dots/

MORE RESOURCES

JAMES' ESSAY BASED ON HIS CHILDHOOD BEDROOM!
https://globalmathproject.org/wp-content/uploads/2020/11/Issue-9_-NMF-Weekly-Newsletter_-Math-and-Rooms.pdf

DO ALIENS LIKE MATHS?
https://globalmathproject.org/wp-content/uploads/2021/01/Issue-13_-NMF-Weekly-Newsletter_-Alien-Math-1.pdf

THINKING MATHEMATICS!
James has his own brilliant website which expands on many of the viewpoints he shares in the article. From mathematical essays, to online courses, through to curriculum videos, the site has so much for you to do: **http://www.jamestanton.com/**

LIVE LESSONS ALL YEAR!
As James explains, his project is designed to be accessible to everyone around the world. The Global Math Project has put together a series of online classes that you and your teachers can access whenever you want. **https://globalmathproject.org/adventures-in-exploding-dots/**

REACH OUT
James is passionate about communicating the joys of maths, so if you have been inspired by anything you have come across as a result of this article, let him know. He wants to inspire people just like you, so hearing from you would make his day!

Send a message to James and the team: **https://globalmathproject.org/contact/**