Sensory integration in mathematics

Use of sensory analyzers in the teaching of fractions
Olena Kovalova's award winning project in the Inclusive Science category

(Ukraine)

Background:

The study of fractions is one of the most difficult topics for students of secondary school, especially those with special needs, such as autism, dyslexia and intellectual disabilities. Tactile sensations and visual enhancements are very useful for children with sensory impairment. Using a variety of materials with a rough, soft, durable, smooth surface stimulates and activates the tactile and visual analysers of a child. Teaching with the help of "Sensory Math-Lapbook", we have made this process easy, interesting, and creative!

You will need:

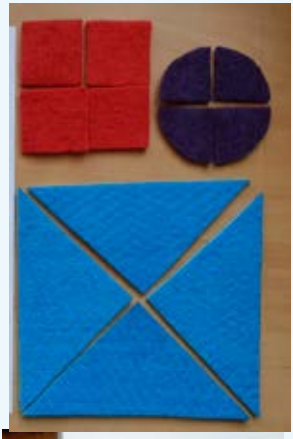
- ✓ to create a "Sensory Math-Lapbook" that includes various cards and objects with various surfaces and colours, tables;
- ✓ cards with different colours and surfaces (rough, soft, solid, smooth)
- ✓ soft baby sponges with various structures in the shape of fruits (orange, strawberries, etc.);
- ✓ children's soft designer "Benchams" (fur balls)
- ✓ circles and squares with different densities and structures can be made from sponges and clothes for washing dishes.
- ✓ one large card-field with a rough surface of bright colour which consists of 100 cells;
- ✓ printed task tables for each page or card to show fractions.

Follow these steps:

1. Show students,using cards with different surfaces (fruit cards), how one whole can be divided into equal parts.
2. Invite students to show the fraction on the card and write in the table;
3. Students compare fractions on cards using circles, squares, stripes of different structure and colour, writing the result in a table.
4. Students learn addition and subtraction of fractions using cards with circles and squares, writing the result in a table.
5. Students study decimal fractions in the next stage. They use card-field which consists of 100 cells and designer "Benchams" (fur balls). Students show and write the decimal fractions in the table.

So what happened?

Sensory support is very important for children with special needs.



Olena Kovalova

Using the “Sensory Math-Lapbook” students mastered the topic of fractions, showing a greater understanding and confidence. They can easily see the connection between the number of equal parts and the name of each part. Sensory stimulation also helps a child to stay more focussed and attentive, as well as easily remembering the new topic.

What next?

Introducing and including new cards, tasks and tables, and following the principles can help with the teaching of other topics such as “Converting fractions” and “Decimal to percent conversion”.

You can watch a video about the project at https://bit.ly/OlenaSonS