Name of Strategy: Frames

Organising Element: Higher order thinking
Graphic organiser

Purpose of Strategy:

Frames is a graphic organiser that can be used in a variety of ways. Frames can be selected to highlight, extend, enhance and focus attention on the core curriculum.

The use of frames can help students:

- Focus on the Big Idea
- Clarify and deepen understanding
- Guide thinking towards analysis and evaluation, synthesis and creativity
- Work collaboratively in groups
- Explore the discipline of mathematics

Description of Strategy

1. Place the concept to be examined in the centre of the frame (Diagram 1a: Template; Diagram 1b. Template for gifted learners)

2. Dimensions of the concept are placed in the four bordering quadrants. These are designed to explore the concept and extend learning. (Diagram 2: Problem solving)

3. Icons of depth and/or complexity can be placed into each of the quadrants so that students can respond to the topic through the lenses of the icons. (Diagram 3: Creative Arts; Diagram 4: Bases; Diagram 5: Part numbers)

4. Frames can also be used to assist students to engage in the dispositions and language of the discipline. (Diagram 4: Think like a mathematician)
Teaching Example  

Year levels: Primary

Diagram 1a: Template

Diagram 1b: Template for gifted learners
Diagram 2: Problem solving

Define the problem (paraphrase)

Use mathematical reasoning to justify your strategy or improve upon it.

Solve the problem using a strategy that you think is effective and efficient.

Identify all possible strategies.

Diagram 3: Creative Arts (with icons)

Creative Arts

Visual Art

Music

What is Creativity?

Creative Writing
Diagram 4: Bases (with icons)

Beyond base 10

Read “The Evolution of Base Ten”.

Do “Different bases”.

Bases Galore!

Work clockwise around this frame starting at “Beyond base 10”.

Computations using other bases

Read “One-handed Arithmetic”.

Do “Arithmetic in base 5”.

Can you find more efficient ways for computing in different bases?

Hint: a possible resource could be YouTube

Do “Exercises”.

Diagram 5: Part numbers (with icons)

Use the language of a mathematician to explain your understanding of this big idea.

What patterns related to part whole combinations help you remember and understand this big idea?

What questions do you have about this big idea?

Numbers can be made up of two or more parts

Give as many examples and details as you can about this big idea.
Diagram 6: Think like a mathematician

References:
Frames were developed by Dr Sandra Kaplan and Bette Gould. A complete description of the uses and designing of Frames may be found in their book: Frames differentiating the core curriculum

Further information may be found at J.Taylor Education, http://www.jtayloreducation.com/

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