



## Splitting bigger problems into smaller tasks

### Lesson Plan: Class 03 / DA / 02



<b>Overall goal of the lesson</b>	Understand that many big problems can be solved by splitting them into smaller, known and easy-to-do tasks.
<b>Prior knowledge required</b>	

**MODULE 1:**            **Module time:** 35 minutes

<b>Goal:</b>	Understand the importance of splitting bigger tasks to smaller known ones with the help of two simple examples
<b>Description:</b>	Explain to the students the concept as stated in the goal and elaborate on examples in the best way you can. Feel free to improvise and use props if necessary.
<b>Material required:</b>	<b>Physical: Chalk/Marker and Board, Worksheet</b> <b>Electronic: Projector for PowerPoint presentation</b>
<b>Procedure Summary:</b>	Explain the concept with the help of two examples.
<b>Procedure Details:</b>	<ol style="list-style-type: none"><li>1. Begin the class with revising the key statement of this lesson, "When you face with BIG task it helps if you break the task into smaller and easier problems"</li><li>2. The first example that you'll cover in this lesson is a famous mathematical puzzle known as Tower of Hanoi or Tower of Brahma. You can learn more about this on the Wiki page of Tower of Hanoi or through this video <a href="https://www.youtube.com/watch?v=rVPuzFYIfYE">https://www.youtube.com/watch?v=rVPuzFYIfYE</a></li><li>3. For this example, you have three poles/towers/spikes, a source, destination and an extra pole. You'll have disks of different sizes arranged in order of size in Source pole. The task is to move all the disks from Source to Destination pole and retaining the order of size by following three simple rules.<ul style="list-style-type: none"><li>-Only one disk can move at a time</li><li>-Only the uppermost disk can be moved</li><li>-No disk may be placed on top of a smaller disk</li></ul></li><li>4. This problem has solution depending on either you have odd or even number of disks. The example in this lesson explains the solution first and then helps students relate to it with the help of example. You can also ask students to evolve their own method of solving this problem and then show them the solution. In this case, skip over slide 10 which contains the solution and you can come back to it later.</li><li>5. Encourage students to try 3 disk problems which can also be part of their homework.</li><li>6. Tower of Hanoi is a classic example of how a seemingly complex task (ex. 10 disks) can be solved with the help of smaller similar steps repeated.</li><li>7. The next example involves counting Rs10 notes in order of 2. Thus, we have divided the bigger problem of counting many notes into counting 2 and doubling the amount, thus saving time of counting manually all notes.</li></ol>
<b>Assessment:</b>	Try solving first example with different symbol and second with different figure
<b>Information Broadcast:</b>	Complete Worksheet