











Learning Activity	Explanation
<div> <div>understand</div> <div> <div>LC: Learning Catalytics 90 min</div> <div>  <p>Instructor poses question Answer alone Discuss in team Answer again</p>  <p>bring device</p> </div> </div> </div>	<p>Preferably in combination with Learning Catalytics or Perusall.</p> <p>Before class: Students read literature and post questions. During class these questions are asked, students try to answer them individually, discuss the answers in groups and answers the questions again.</p>
<div> <div>understand</div> <div> <div>Tutorial 60 min</div> <div>  <p>Work on worksheet with team Explore concepts Discuss with staff</p> </div> </div> </div>	<p>This activity is similar the tutorials already implemented at the University of Twente. In groups the students work on assignments and the teacher is there to support the students and discuss the concepts.</p>
<div> <div>apply</div> <div> <div>EA: Estimation Activity 30 min</div> <div>  <p>Estimate quantities Develop individual strategy Discuss and solve as team</p> </div> </div> </div>	<p>Students receive assignments they have to solve by making estimations based on the knowledge they have gained during the 'understanding' activities. Then they discuss them in groups. The groups that solves all the answers first wins (the class' honour).</p>
<div> <div>apply</div> <div> <div>EDA: Experimental Design Activity 90 min</div> <div>  <p>Conduct experiment with team Take measurements Analyze data Carry out simulations</p>  <p>bring device</p> </div> </div> </div>	<p>Students receive a case in which they have to apply the knowledge gained during the 'understand' activities. Preferably using real data and documents. The students work on the cases in groups.</p>
<div> <div>evaluate</div> <div> <div>Problem Set & Reflection 90 min</div> <div>  <p>Work problems alone BEFORE class Discuss with team, mark up Self-assess & turn in</p> </div> </div> </div>	<p>Before class: students work individual on a number of assignments, emphasizes is on effort instead of the right answer.</p> <p>In class: students mark their answers of the same assignments in groups, using a different coloured pen.</p>
<div> <div>evaluate</div> <div> <div>RAA: Readiness Assurance Activity 90 min</div> <div>  <p>Part 1: solve problems alone Open book, open internet</p>  <p>Part 2: solve with team</p>  <p>bring device</p> </div> </div> </div>	<p>Students make a short MC test individually. Then they can go back to their notes and look for additional information online. During the second round, the same questions are answered in groups using scratch cards.</p>

Source: Presentation Eric Mazur, 'flat space, deep learning' 25th of November, University of Twente
<http://mazor.harvard.edu/search-talks.php?function=display&rowid=2550&szrowids=&searchURL=function%3Drecent>