

Matter: Solids, Liquids & Gases
Gems® Teacher's Guide for Grades 1-3

Monday - Day 1 Pre-assessment	<ul style="list-style-type: none">• Students create a concept map (mind map) of what they already know about matter using pencil and paper or Kidspiration/Inspiration software• Create a <u>KWL</u> chart and make a list combining what the students already <u>know</u> and <u>want</u> to learn (optional)• Use this as a guide to determine what lessons need to be taught in the GEMS guide
Tuesday - Day 2 Activity 1: Solids and Liquids 45 – 60 min.	<ul style="list-style-type: none">• Organize materials and set up learning stations• Introduce lesson, present bags of objects, and divide class into groups• Have students observe, discuss, manipulate, sort, objects• Introduce and explain the Secret Sort game• Have students play the Secret Sort game• Discuss definitions of solids and liquids• Have students re-sort objects and record in their journal• Assemble Solids & Liquids display board and explain how it will be used in the next lesson
Wednesday - Day 3 Activity 2: Collecting Solids & Liquids 45 – 60 min.	<ul style="list-style-type: none">• Review Solids and Liquids• Introduce and model the Solids and Liquids learning Stations• Conduct the Learning Station activity• Discuss different collections placed on the display board• Engage students in coming up with and adding expanded definitions of solids and liquids to the display board• Have students record new information in their journals
Thursday - Day 4 Activity 3: Challenging Substances 45 – 60 min.	<ul style="list-style-type: none">• Organize materials and set up learning stations• Introduce hand signals for Solids and Liquids• Discuss the substances on the display board• Introduce the Challenging Substances the students will explore• Explain the rationale and procedure for the Challenging Substances stations• Conduct the Challenging Substances activity• Discuss Glook, toothpaste, and shaving cream• Discuss sand, powders and related substances• Have students record in their journal
Friday - Day 5 (optional) Review, assess, and clarify any misconceptions	<ul style="list-style-type: none">• Review what was covered during the week• Assess students and identify and / or address areas that need further explanation• Clarify any misconceptions

<p>Monday - Day 6 Activity 5: Gases (part 1) 45 min.</p>	<ul style="list-style-type: none">• Set up materials required for <i>peppermint</i> demonstration• Introduce and discuss gasses as a third kind of matter• Have students discuss types of gasses and evidence of their existence• Conduct peppermint demonstration• Set up and/or explain the different stations and procedures for the next class
<p>Tuesday - Day 7 Activity 5 (cont'd.): Gases (part 2) 45 – 60 min.</p>	<ul style="list-style-type: none">• Review concept of gases• Organize materials and set up <i>Gas Stations</i> (if not already done)• Walk around explaining the different stations and procedures for activity• Conduct activity by having pairs or groups of students rotate among the stations• Discuss activity, findings, results and what was learned
<p>Wednesday - Day 8 Assessment</p>	<ul style="list-style-type: none">• Students create a new concept map (mind map)• The new concepts that have been learned can also be added to the <u>L</u> section on the <u>KWL</u> chart• The <u>KWL</u> chart can be an ongoing class assessment