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| Our good friend John is a champion sand-castle builder. He won every competition in Europe. But one day he went to a competition in Australia and all he got was this magic sand. At first he was convinced he would lose. But guess what, he built a sand castle after all!!  Now it's your turn - can you? | C:\Users\weizmann\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\AAVY5WWH\shutterstock_110688443.jpg |

**Engage**

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| **Task:** | John provided us with two types of sand:  regular and special sand.  Add some drops of water to each to see what John saw when trying to build the sand castle in Australia. |  |

**Explore**

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| **Task 1:** | Try building a sand-castle from the special sand.  Do you need any extra tools or materials? | C:\Users\JoDi\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\QBRIRH3O\MC900437797[1].wmf |
| **Task 2:** | Explore the behavior of the sand with the tools and materials you requested. |

**Explain**

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| **Task 1:** | Explain: What are the properties of the "special" sand that prevent water from wetting it? |  |
| **Task 2:** | What do you think is the chemistry underlying the "special" sand? |
| **Task 3:** | Look at the model representing the surface of regular sand at the molecular level.  How can you explain the fact that water wets this sand? Sand surface - molecular level  Credits:**http://commons.wikimedia.org/wiki/File:Schematic\_silica\_gel\_surface.png** | C:\Users\JoDi\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\QBRIRH3O\dglxasset[1].aspx |

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|  | |  | **Extend** |
| **Task 1:** Write five questions that arose while exploring the "special" sand?  **Task 2:** Choose one of the questions that you would like to investigate regarding the "special sand castle" and formulate this question clearly as an inquiry question?  **Task 3:** Clearly formulate a hypothesis that relates to the question that you chose to investigate. Give reasons for your hypothesis, based on correct and relevant scientific knowledge.  **Task 4:** Plan an experiment that will check your hypothesis.  • Detail all the steps of the experiment, including the control stage.  • List the equipment and materials needed on the equipment request form.  • Consult with the teacher and make changes if necessary.  • Submit the list of equipment and materials to the laboratory technician. | | |
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**Evaluate**

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| **Task:**  Prepare a lab report.  The results and conclusions can also be presented in a dramatic way. | | C:\Users\JoDi\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\L284WQCA\MC900437791[1].wmf |
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