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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 levelCredits:**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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