



# THE BIG MISTAKE



“All truths are easy to understand once they are discovered; the point is to discover them.”

Galileo Galilei

### March 2009

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

### May 2009

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

# April 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
			April Fool's Day			ACT Test
<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
Palm Sunday			Passover (Begins at Sundown)		Good Friday	
<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
Easter			The Titanic Sinks in the North Atlantic, 1912			
<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>
			Earth Day NCTM Annual Meeting Washington, DC <a href="http://www.nctm.org">www.nctm.org</a>	NCTM Annual Meeting	NCTM Annual Meeting	NCTM Annual Meeting National Ocean Sciences Bowl® Final Competition Washington, DC
<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>		
National Ocean Sciences Bowl® Final Competition Washington, DC	National Ocean Sciences Bowl® Final Competition Washington, DC			National Science Bowl® Washington, DC		

In 1595, Galileo came up with an explanation for why the Earth experiences daily fluctuations in water level, called tides, and in 1616 published his theory called *Treatise on the Tides*. He thought the tides occurred because of the Earth's daily rotation around its axis and the yearly rotation of the Earth around the Sun.

In 1609, Johannes Kepler stated that the Moon was the reason for Earth's tides. It wasn't until Sir Isaac Newton published his law of gravity in 1687 that Kepler was proven correct. Therefore, it is gravity that tugs Earth's water toward the Sun and the Moon, creating tidal bulges, but because the Moon is closer to Earth than the Sun, the tides are a result of the Moon's gravitational attraction to Earth.

Today, as we realize that fossil fuels will run out, there is an increased interest in generating tidal energy. However, tidal power can only be generated when the tides are strongest, which is only a portion of the 24-hour day. Tide generators would need to be able to capitalize on the changing tide as the tide goes in and out, a technological design issue. However, there is a successful operating tidal power plant in the La Rance River off the English Channel in France, which produces enough electricity to serve over 1,500 homes for a year.

Credit: Diagram of Galileo's theory on what causes the tides courtesy of Rice University, <http://galileo.rice.edu/sci/observations/tides.html>