



## Archimedes' Principle

## Pascal's Principle

## Bernoulli's Principle



### Charles' Law

Archimede's Principle	Pascal's Principle	Bernoulli's Principle	Boyle's Law	Charles' Law
<u>\$100</u>	<u>\$100</u>	<u>\$100</u>	<u>\$100</u>	<u>\$100</u>
<u>\$200</u>	<u>\$200</u>	<u>\$200</u>	<u>\$200</u>	<u>\$200</u>
<u>\$300</u>	<u>\$300</u>	<u>\$300</u>	<u>\$300</u>	<u>\$300</u>
<u>\$400</u>	<u>\$400</u>	<u>\$400</u>	<u>\$400</u>	<u>\$400</u>
<u>\$500</u>	<u>\$500</u>	<u>\$500</u>	<u>\$500</u>	<u>\$500</u>



#### These states of matter are called fluids, which have the ability to flow







## An upward force that fluids exert on matter







#### The amount of force exerted per unit area of a surface







The buoyant force on an object in a fluid is an upward force equal to the weight of the fluid it displaces







#### If the weight of the fluid displaced is equal to the object's weight, the object will







## This can be calculated by dividing force by area







## SI unit for pressure equal to the force of 1 N/m<sup>2</sup>







States that the pressure applied to a fluid is transmitted equally throughout the fluid







#### Using Pascal's principle, $F_1/A_1=F_2/A_2$ , where $F_1=100$ N, $A_1=1m^2$ , and $A_2=10m^2$ , $F_2=?$







#### These types of devices are a good example of Pascal's Principle







#### Daniel Bernoulli's home country







According to Bernoulli's Principle, as the speed of a moving fluid increases, the pressure applied by the fluid







#### Two ships are sailing side by side in a flowing river. The fluid speed between the ships







#### Two ships are sailing side by side in a flowing river. The pressure between the ships







Two ships are sailing side by side in a flowing river. Because of Bernoulli's Principle, the ships might





Boyle's Law - \$100



Boyle's law states that as the volume of a fluid decreases, at a constant temperature, the pressure of the fluid





Boyle's Law - \$200



#### Boyle's law can be expressed mathematically as





Boyle's Law - \$300



If a capped syringe is compressed, the force applied by the syringe back on the user







#### According to Boyle's law, the variable that remains constant







#### According to Boyle's law, $P_1V_1=P_2V_2$ , if $P_2$ decreases, $V_2$ will





Charles' Law - \$100



Charles' Law states that if the temperature of a sample of gas increases, at a constant pressure, the volume will





Charles' Law - \$200



#### Charles' law can be expressed mathematically as





Charles' Law - \$300



# If a balloon is placed in a freezer, this will happen to it







## The variable that remains constant, according to Charles' law







#### According to Charles' law, V<sub>1</sub>/T<sub>1</sub>=V<sub>2</sub>/T<sub>2</sub>, if T<sub>2</sub> increases, V<sub>2</sub> will





#### What is a liquid or gas?



#### What is a buoyant force?



#### What is pressure?


**Archimedes' Principle - \$400** 

# What is Archimedes' Principle?



**Archimedes' Principle - \$500** 

#### What is float?



# What is pressure?



#### What is the pascal?



# What is Pascal's principle?



#### What is 1000 N?



# What are hydraulic devices?



#### What is Switzerland?



#### What is decreases?



#### What is increases?



#### What is decreases?



#### What is collide?



#### What is increases?



# What is $P_1V_1 = P_2V_2$ ?



#### What is increases?



#### What is temperature?



#### What is increases?



Charles' Law - \$100

#### What is increase?



Charles' Law - \$200

# What is $V_1/T_1 = V_2/T_2?$



#### What is shrink?



Charles' Law - \$400

## What is pressure?



Charles' Law - \$500

#### What is increases?





# FINAL CATEGORY



# The law or principle that explains why airplanes can fly



# What is Bernoulli's Principle?

#### END OF GAME

Daily Doubles and usage notes follow...



























# JEOPARDY! Slide Show Setup

- The font for the question & answer slides is "Enchanted;" a copy of this font in located in the "REAL Jeopardy Template" folder or included in the "jeopardy\_pc.zip" file. (This font will need to be installed in the C:/WINDOWS/FONTS folder of the computer running the show.) In order to keep all of the sounds and fonts together, copy the entire "REAL Jeopardy Template" folder or "jeopardy\_pc.zip" file.
- To change the categories:
  - 1. Go to the "Edit" menu and choose "Replace..."
  - 2. In the Find box, type CATEGORY X (X being 1 through 5) (all caps).
  - 3. In the Replace box, type the category in all caps (for example, PRESIDENTS).
  - 4. Click Replace All...
- To change the dollar values (for example to create Double Jeopardy):
  - 1. Go to the "Edit" menu and choose "Replace..."
  - 2. In the Find box, type X (the dollar value you want to change).
  - 3. In the Replace box, type the new dollar value (with \$).
  - 4. Click Replace All...

### JEOPARDY! Slide Show Setup continued

- To set up the Daily Double:
  - 1. Choose which dollar value(s) to set as Daily Double (normally, Jeopardy has one Daily Double, and Double Jeopardy has two).
  - 2. Go to the Game Board slide (Slide 8), right click once on the dollar value for the appropriate question, choose Hyperlink, and choose Edit Hyperlink.
  - 3. In the Edit Hyperlink window, go to "Named location in file" and click "Browse..."
  - 4. In the Hyperlink to Slide window, scroll down to the appropriate slide; Slides 64 and 65 are regular Daily Doubles, Slide 66 is an Audio Daily Double, Slide 67 is a Video Daily Double. Click "OK."
  - 5. Go to the Daily Double slide just linked to, and right click once on the answer arrow at the bottom right, choose Hyperlink, and choose Edit Hyperlink.
  - 6. In the Action Settings window, make sure the Hyperlink button (to the left of "Hyperlink") is selected, and in the select box underneath choose "Slide..."
  - 7. In the Hyperlink to Slide window, scroll down to the appropriate question slide (the original slide number of the question).
- NOTE: Using the Audio and Video Daily Doubles requires adding audio or video/picture clips to the question slides. If you are not familiar with doing this in PowerPoint, do not use those Daily Doubles.

#### Running the JEOPARDY! Slide Show

- On the game board with the categories on top (Slide 8), click on the desired dollar value. (The first game board is used only to blink in the dollar values like the show.)
- The question slide will pop up; the slides are timed with an eight-second timer. At the end of the timer, an alarm will chime.
- ICONS:
  - ? Go to the answer screen.
  - **House** Go back to the game board.
  - **Right Arrow** (on Daily Doubles) Go to the question screen.
  - **Right Arrow w/ Bar** (on Game Board) Go to the Final Jeopardy category.
  - Turned-up Arrow Reload question screen after incorrect guess.
  - **\$** Go to the Scoreboard slide.
  - Left Arrow (on Scoreboard) Go to the previous slide.

#### "Jeopardy!" Powerpoint Template

Designed and Created by Jeffrey White jcteacher@yahoo.com

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The graphics and sounds used in this template are recorded from the "Jeopardy!" television show, were obtained from the <u>"Jeopardy!" website</u>, and are the property of Sony Pictures Entertainment.

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