ঘ//

ভাত

$C_{12}H_{22}O_{11} + H_2O \xrightarrow{\text{অ্যাসিডে}} \boxed{C_6H_{12}O_6} + C_6H_{12}O_6$

~~সুক্রোজ~~ সুক্রোজ গ্লুকোজ ~~ফ্রুক্টোজ~~ ফ্রুক্টোজ

৩//

$C_6H_{12}O_6 + O_2 \xrightarrow[\text{(moltage)}]{\text{জাইমেজ}} \boxed{CH_3CH_2OH}$

$CH_3CH_2OH + [O] \rightarrow CH_3COOH$

6-10%. ভিনেগার

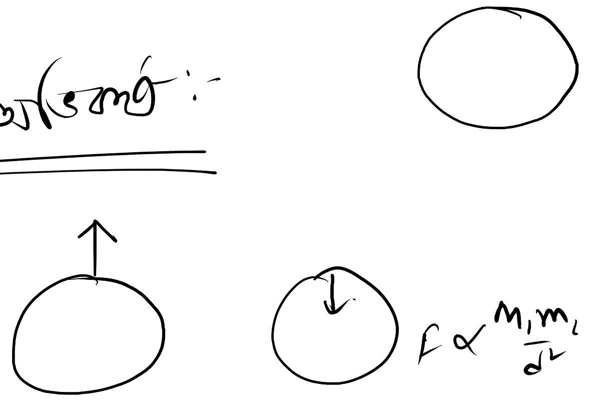
ঙ. ভিনেগারের মৃদু অম্লীয় বৈশিষ্ট্য আলোচনা কর।

$\boxed{CH_3COOH \rightarrow CH_3COO^- + [H]^+}$

ঘ/

জোটার

মহাকর্ষ ও অভিকর্ষ:



$F \propto \frac{m_1m_2}{d^2}$

অভিকর্ষজ ত্বরণের পরিবর্তন:

উচ্চতার পরিবর্তন:

অক্ষের দিক:

১ উচ্চতা:

$g' = \frac{GM}{(R+h)^2}$

পৃষ্ঠে

$g = \frac{GM}{R^2}$

$\frac{g'}{g} = \frac{\frac{GM}{(R+h)^2}}{\frac{GM}{R^2}}$

$\boxed{g' = \frac{GM}{(R+h)^2}}$

$$\frac{g'}{g} = \frac{R^2}{(R+h)^2}$$

$$\frac{g}{g'} = \left(\frac{R+h}{R}\right)^2$$

$$\frac{g}{g'} = \left(1+\frac{h}{R}\right)^2$$

$$\frac{g'}{g} = \left(1+\frac{h}{R}\right)^{-2}$$

$$\frac{g}{g'} = \left(1+\frac{h}{R}\right)^2$$

$$\frac{g}{\left(1+\frac{h}{R}\right)^2} = g'$$

$$g' = g\boxed{\left(1+\frac{h}{R}\right)^{-2}}$$

$$g' = g\left(1+\frac{h}{R}\right)^{-2}$$

$$(1+x)^n = 1 + {}^nC_1 x + {}^nC_2 x^2 + {}^nC_3 x^3 + \dots$$

$$= 1 + nx + \frac{n(n-1)}{1\times 2}x^2 + \frac{n(n-1)(n-2)}{1\times 2\times 3}x^3$$

R = 6400 km

h = (1-999) km

$$= g\left\{1 + (-2)\frac{h}{R} + \frac{(-2)(-2-1)}{\cancel{2}}\left(\frac{h}{R}\right)^2 + \dots\right\}$$

$$= g\left\{1 - \frac{2h}{R} + 3\frac{h^2}{R^2} + \dots\right\}$$

$h << R$

$\frac{h^2}{R^2} \approx 0$

$$\boxed{g' = g\left(1 - \frac{2h}{R}\right)}$$

$$\left(\frac{999}{6400}\right)^2 =$$

9.66

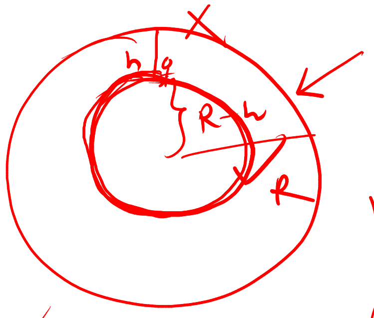
9.68

h = 10

R = 1000000

$\left(\frac{h}{R}\right)^2 = 0.0000000001 \approx 0$

[illegible]:



$$\frac{4}{3}\pi R^3 \rightarrow M$$

$$\frac{4}{3}\pi (R-h)^3 \rightarrow \frac{M}{\cancel{\frac{4}{3}\pi R^3}} \times \cancel{\frac{4}{3}\pi} (R-h)^3$$

$$\rightarrow \frac{M(R-h)^3}{R^3}$$

$$g' = \frac{G\frac{M(R-h)^3}{R^3}}{\cancel{(R-h)^2}}$$

$$= \frac{GM(R-h)}{R^3}$$

$$g = \frac{GM}{R^2}$$

$$\frac{g'}{g} = \frac{\cancel{GM}(R-h)/R^3}{\cancel{GM}/\cancel{R^2}}$$

$$\frac{g'}{g} = \frac{R-h}{R}$$

উচ্চঃ → $g' = g\left(1 - \frac{2h}{R}\right)$

গভীঃ $g' = g\left(1 - \frac{h}{R}\right)$

$$\frac{g'}{g} = \left(1 - \frac{h}{R}\right)$$

$$\boxed{g' = g\left(1 - \frac{h}{R}\right)}$$

// পৃথিবী থেকে h_1 উচ্চতায় অভিকর্ষজ ত্বঃ ও পৃথিবী থেকে h_2 গভীরে অভিকর্ষজ ত্বঃ সমান হলে h_1/h_2 এর মান কত?

$$g' = g\left(1 - \frac{2h_1}{R}\right) \qquad g' = g\left(1 - \frac{h_2}{R}\right)$$

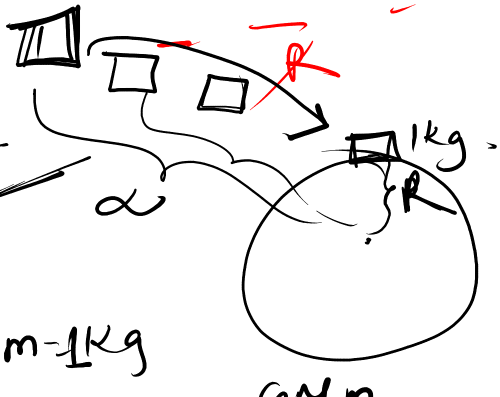
$$\frac{\cancel{g'}}{\cancel{g'}} = \frac{\cancel{g}\left(1 - \frac{2h_1}{R}\right)}{\cancel{g}\left(\cancel{1} - \frac{h_2}{R}\right)}$$

$$1 - \frac{2h_1}{R} = 1 - \frac{h_2}{R}$$

$$\frac{2h_1}{\cancel{R}} = -\frac{h_2}{\cancel{R}}$$

$$h_2 = 2h_1$$

$$\frac{h_1}{h_2} = \boxed{\frac{1}{2}}$$



মহাকর্ষ বিভব:-

অসীম হতে 1kg ভরঃ
বস্তু মহাকর্ষ ক্ষেত্রে
আনতে কৃত কাজ।

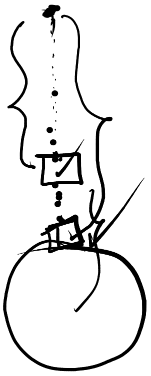
$$W = \int_{\alpha}^{R} F\,dr \qquad m = 1\text{kg} \qquad F = \frac{GMm}{r^2}$$

$$= \int_{\alpha}^{R} \frac{GM \times 1}{r^2}\,dr \qquad = \frac{GM}{r^2}\,[m = 1] \qquad \vec{F}\cdot\vec{r} \qquad \int F\,dr$$

$$= GM \int_{\alpha}^{R} r^{-2}\,dr \qquad \int r^n\,dr = \frac{r^{n+1}}{n+1}$$

$$= GM\left[\frac{r^{-2+1}}{-2+1}\right]_{\alpha}^{R}$$

$$= GM\left[-r^{-1}\right]_{\alpha}^{R}$$



$= GM\left[-\frac{1}{r}\right]_{\infty}^{R}$

$= GM\left[(-)\frac{1}{R} - \left(\frac{1}{\infty}\right)\right]$

$$\boxed{V = -\frac{GM}{R}}$$

$|-10\text{J}|$

$= 10\text{J}$

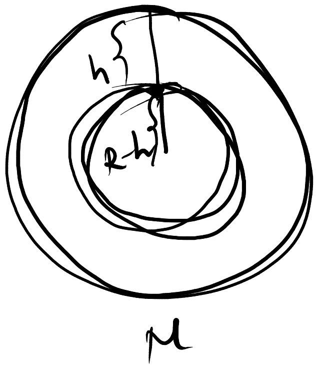
$= \int_{R}^{R+h} \frac{GMm}{r^2}\,dr$

$= GMm \int_{R}^{R+h} r^{-2}\,dr$

$W = V_{পৃষ্ঠ} - V_{h\ উচ্চতা}$

$= \left(\frac{GM}{-R}\right) - \left(\frac{GM}{R+h}\right)$

$W =$



$W = \int_{\infty}^{R-h} F\,dr$

$-G\,\psi \times \rho\, r^{2}$

ঘর্ষণ বল:-

কাঠ ✓ =

তেল ✓

সাবান =

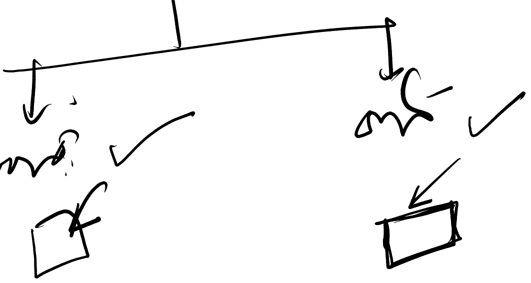
→ আয়তন

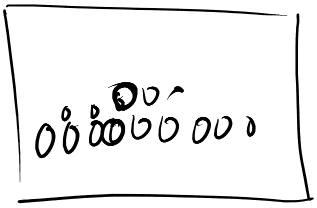
→ আকার

→ আয়তন

[illegible] ✓

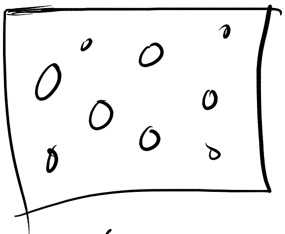
[illegible] ✓





আন্তঃআণবিক আকর্ষণ কম
বেশি

দূরত্ব কম



আকর্ষণ তুলনামূলক
কম

দূরত্ব বেশি