

Mavzu: Matematik mayatnik yordamida erkin tushish tezlanishini aniqlash

Fan: Fizika

Sinf: 10

Shakl: Amaliy laboratoriya

Maqsadlar

Ta'limiy:

Matematik mayatnik harakatini tushuntirish

Erkin tushish tezlanishini tajriba orqali aniqlash

Tarbiyaviy:

Kuzatuvchanlik, mantiqiy tafakkur

Rivojlantiruvchi:

Mustaqil fikrlash, natijalarni tahlil qilish

3. Jihozlar

Matematik mayatnik (ip + og'irlik)

Stativ, tayanch

Soat yoki elektron vaqt o'lchagich

O'lchovchi lenta

Kalkulyator, daftar

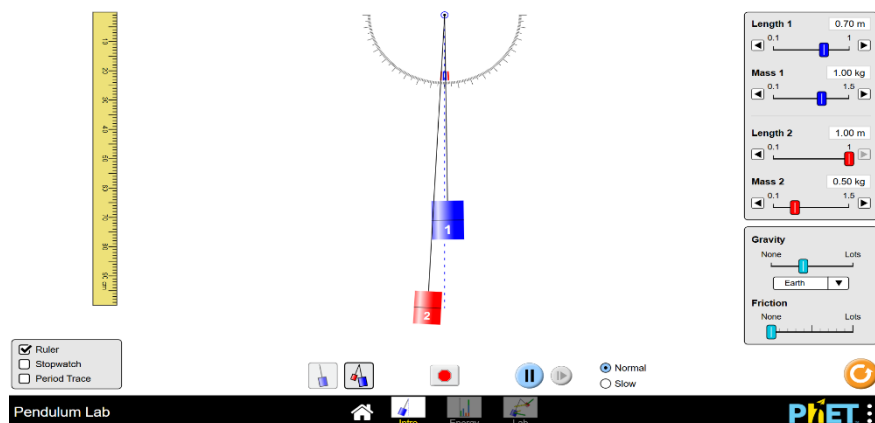
Formulalar:

$$T = 2\pi \sqrt{\frac{l}{g}} \quad g = \frac{4\pi^2 L}{T^2}$$

(T) — davr

(L) — ip uzunligi

(g) — erkin tushish tezlanishi



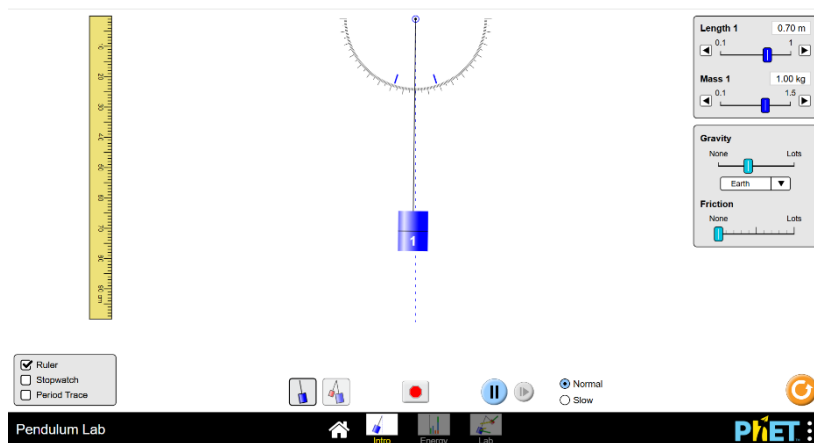
Amaliy ish bosqichlari

1. Mayatnikni tayyorlab, ip uzunligib o'lchanadi
2. Og'irlik osib, boshlang'ich burchak 5–10° ga sozlanadi
3. Davr (T) o'lchanadi (3–5 marta, o'rtacha)
4. Natijalar jadvalga yoziladi

No	L (m)	T (s)	($g = 4\pi^2 L/T^2$) (m/s ²)
1			
2			
3			

Natijalar tahlil qilinadi: (g) qiymatini hisoblab va nazariy qiymat bilan taqqoslanadi, xatolik manbalari aniqlanadi

Grafik: (L) va (T²)



Uyga vazifa

Turli uzunliklarda tajriba o'tkazib (g) ni hisoblash

Burchakni oshirishning ta'sirini yozish