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Tides

More mass \rightarrow Sun

less mass \rightarrow Moon

Closer \rightarrow Moon

farther \rightarrow Sun

Tides caused by STRETCHING

\hookrightarrow gravity's pull is harder on closer side than on the farther side

The difference in pulls \Rightarrow tidal strength

If we had no ~~the~~ Moon, how would Graph #3 be different?

① no variation in high tide heights



② high tide would always happen around noon and midnight

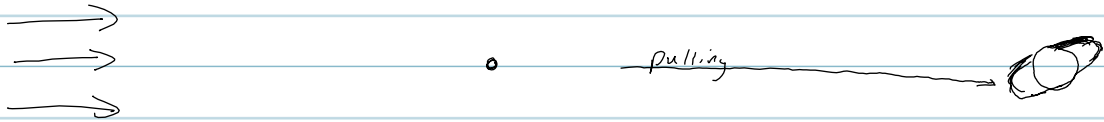
Sun \rightarrow
light \rightarrow



Clovelly (England)

Tides

Moon's pull slows Earth down



How do we know

Stromatolites

- primitive organisms
been around for at least 3.5 billion
years

Black hole

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$\rightarrow \odot$

$$F_g = G \frac{M m}{d^2}$$