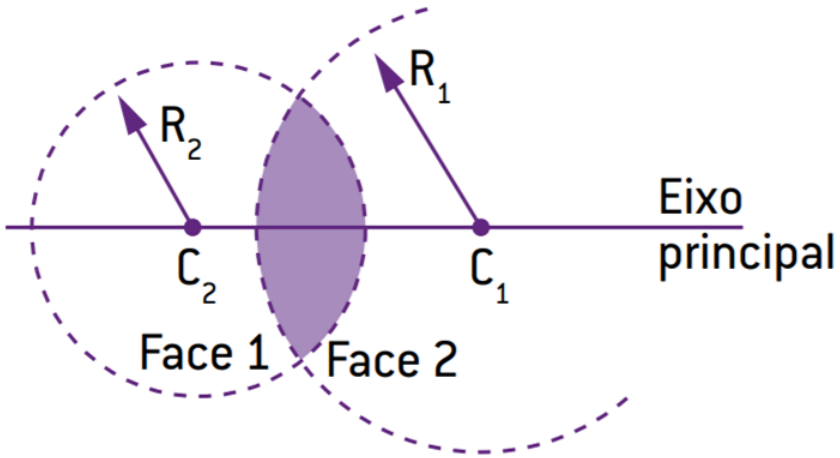
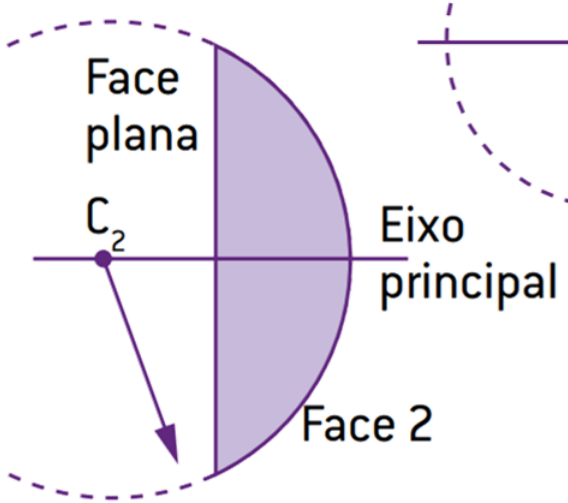
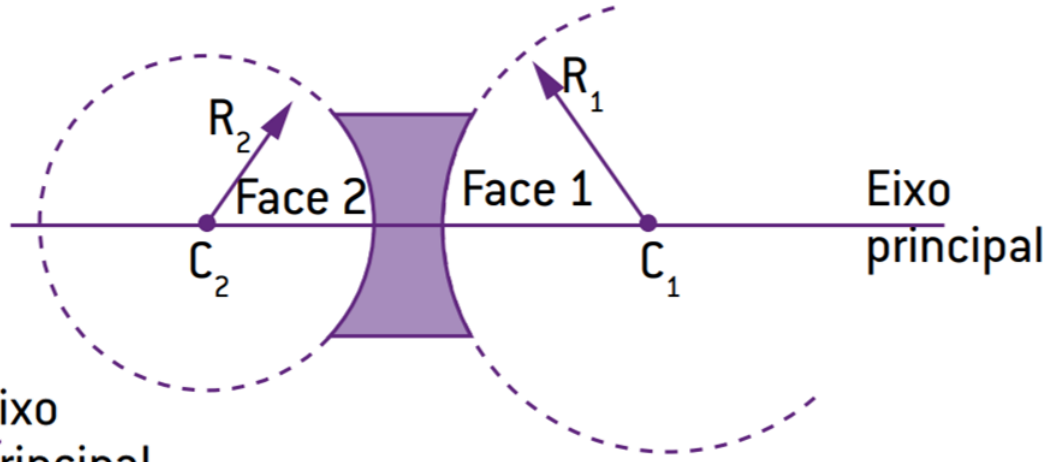
Lentes Esféricas

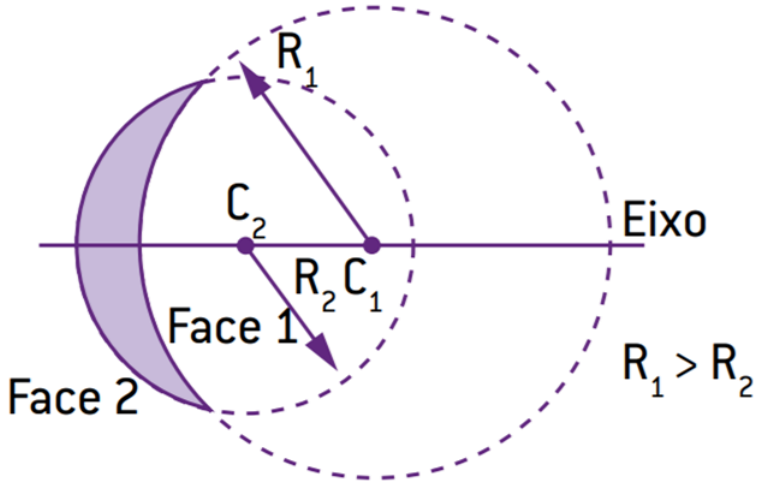
Prof. Bruno ZiSc
Física

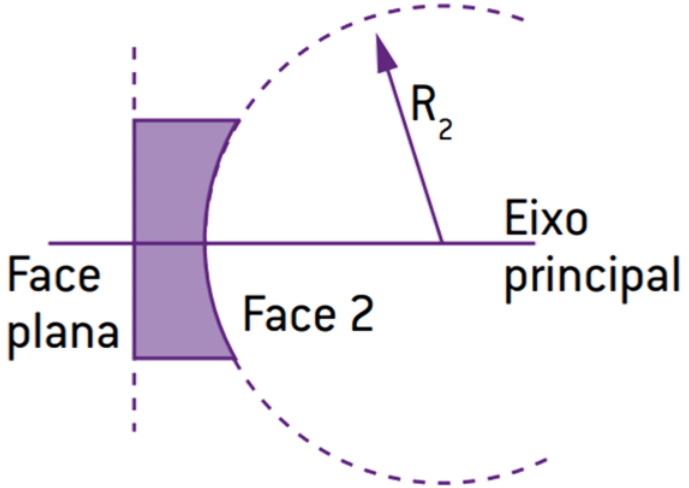
Construção das Lentes Esféricas

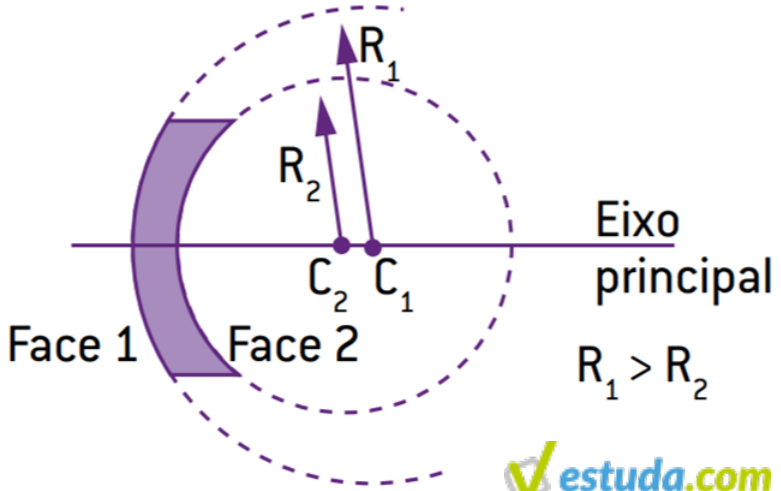






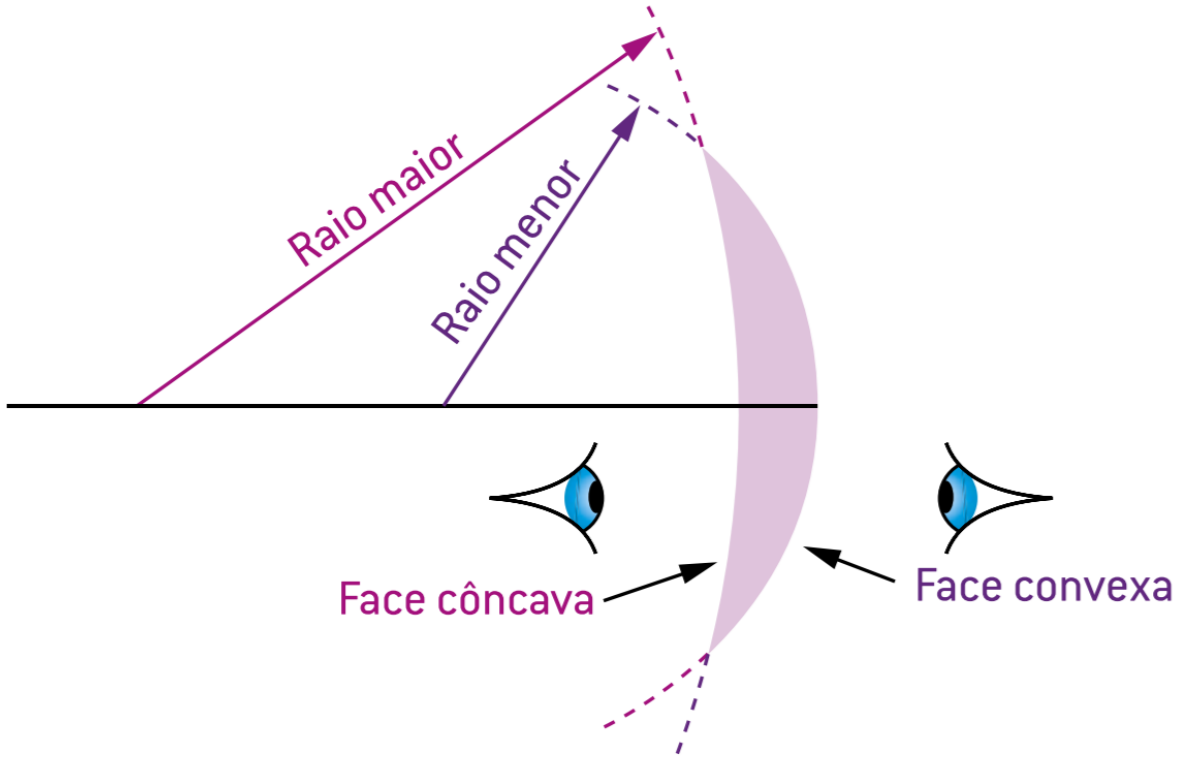






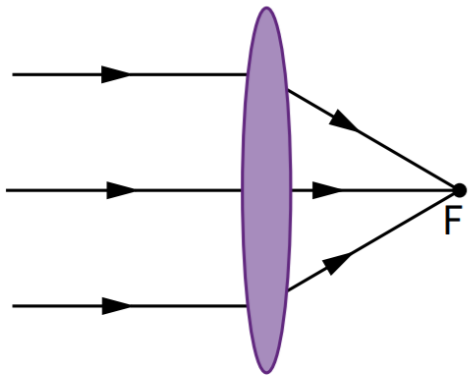
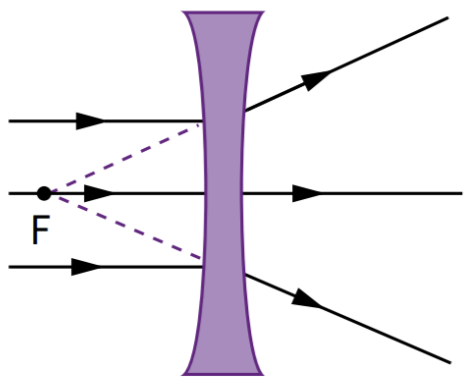
Classificação das Lentes

Bordas finas	Bordas grossas
Biconvexa	Bicôncava
Plano-convexa	Plano-côncava
Côncavo--convexa	Convexo--côncava
O nome da lente termina com a palavra "convexa".	**O nome da lente termina com a palavra "côncava".**



Comportamento Óptico das Lentes

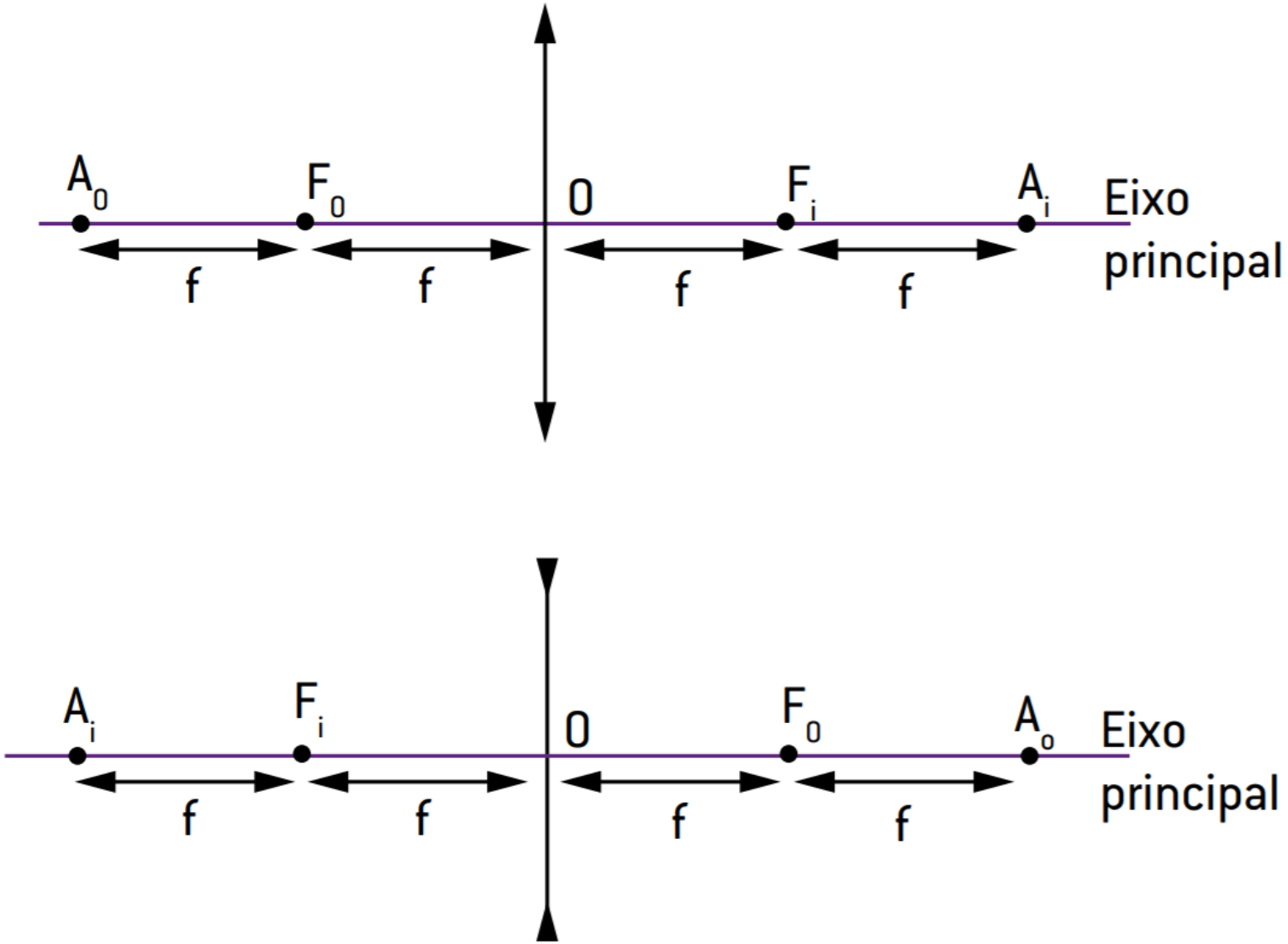
Quando a lente é feita de um material mais refringente que o meio seu comportamento é o representado abaixo.

Convergente	Divergente
	

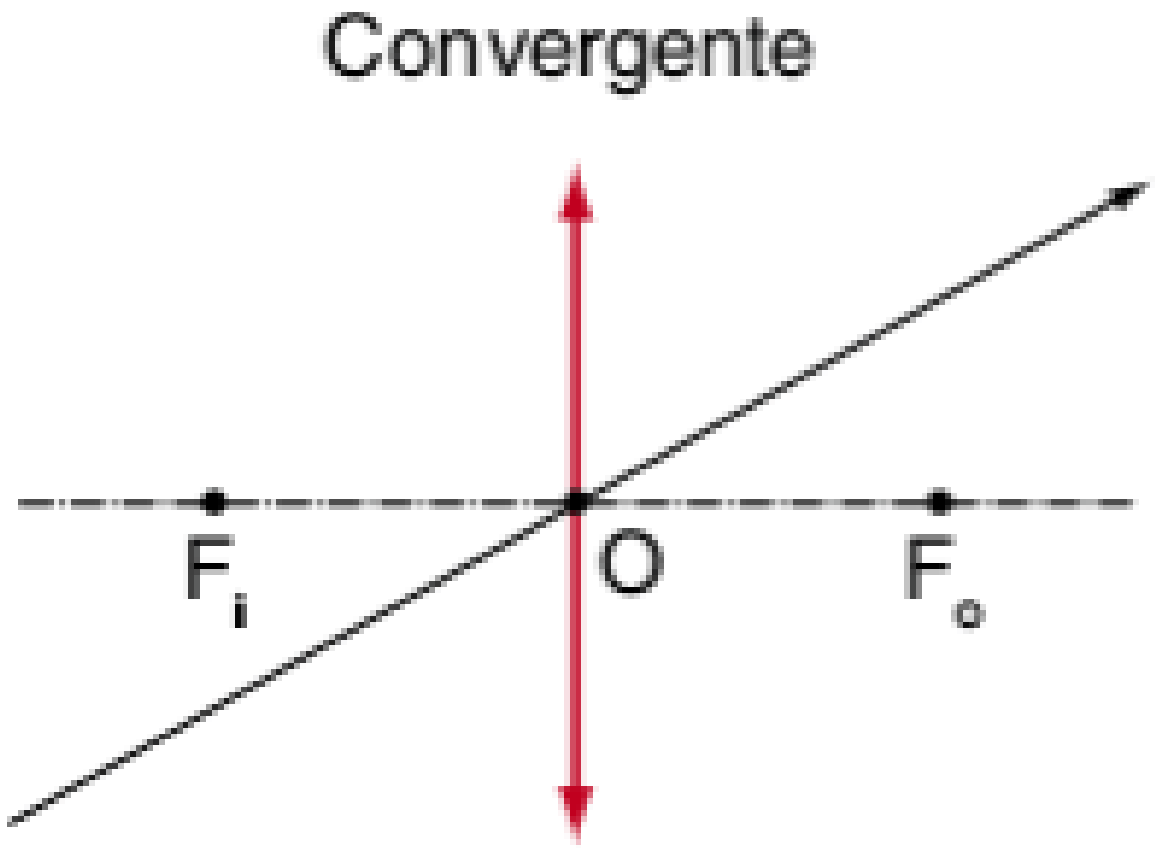
Convergente	Divergente
	

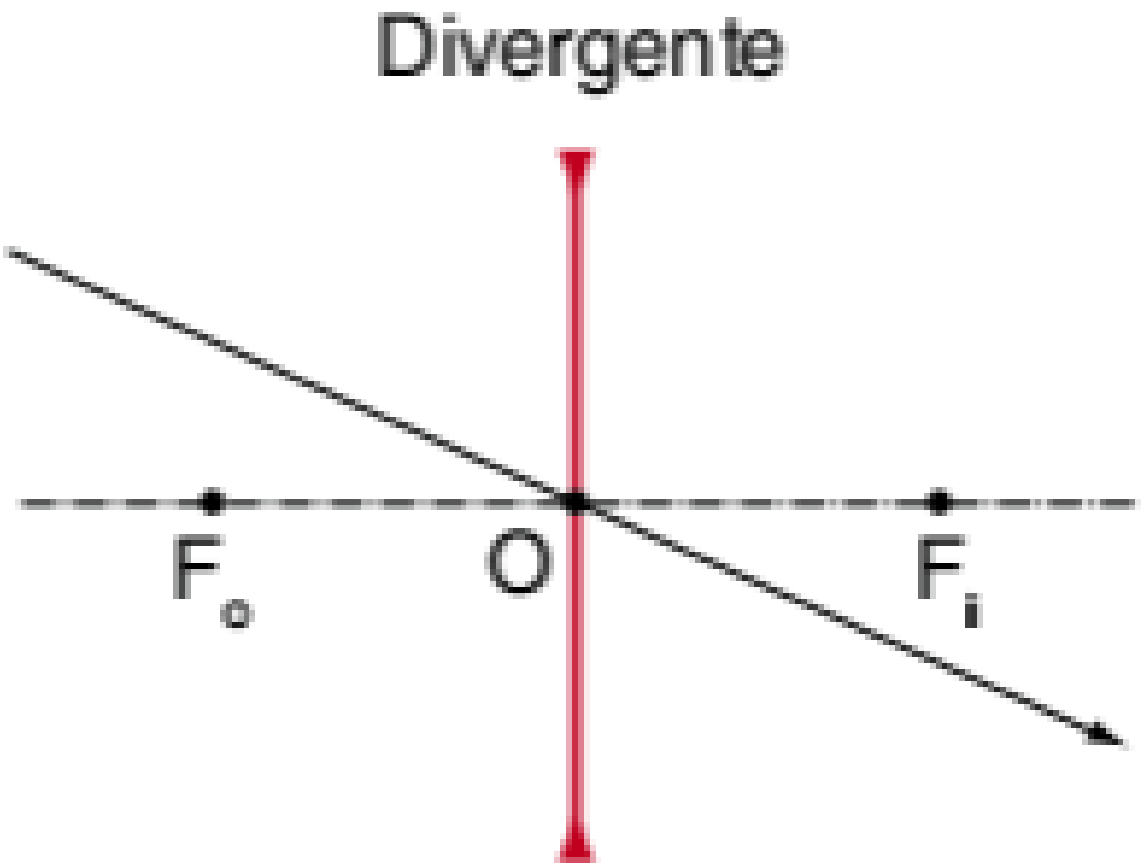
Obs.: Se a lente for menos refringente que o meio o comportamento será oposto.

Elementos de uma Lente Esférica

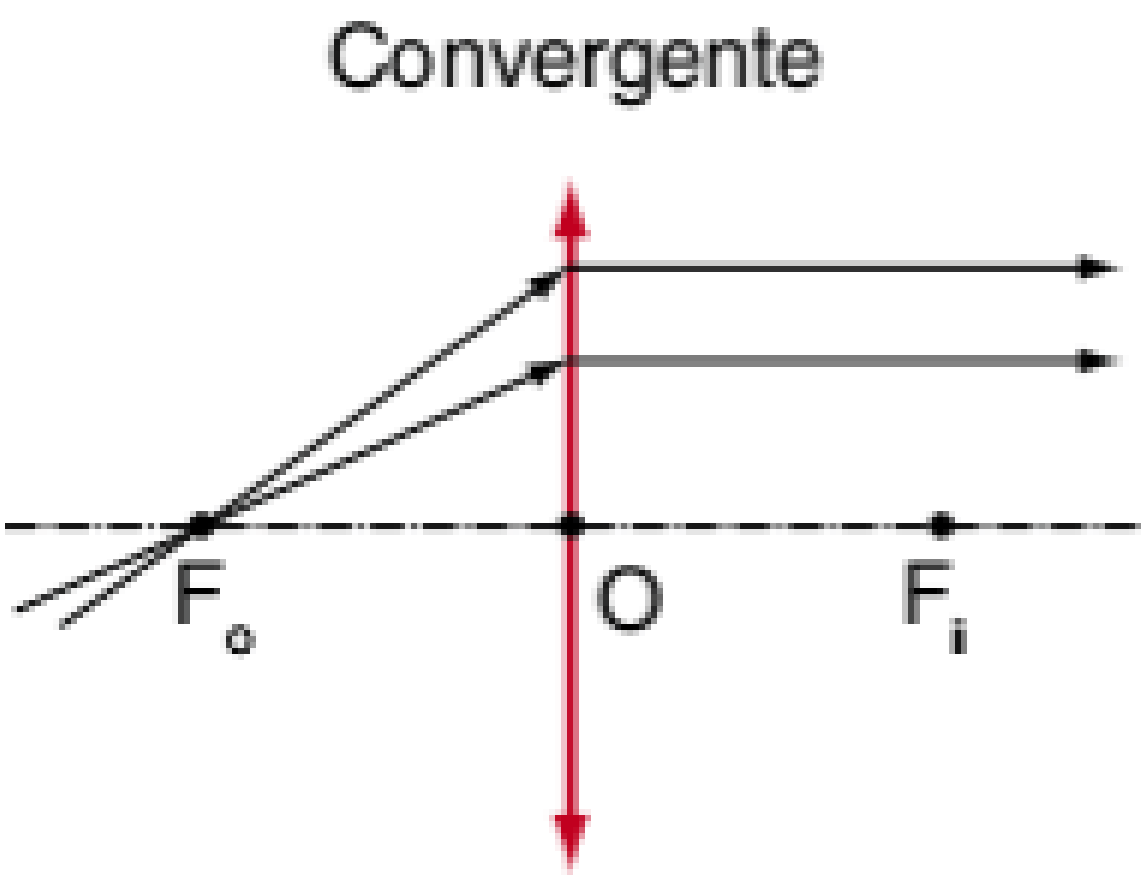


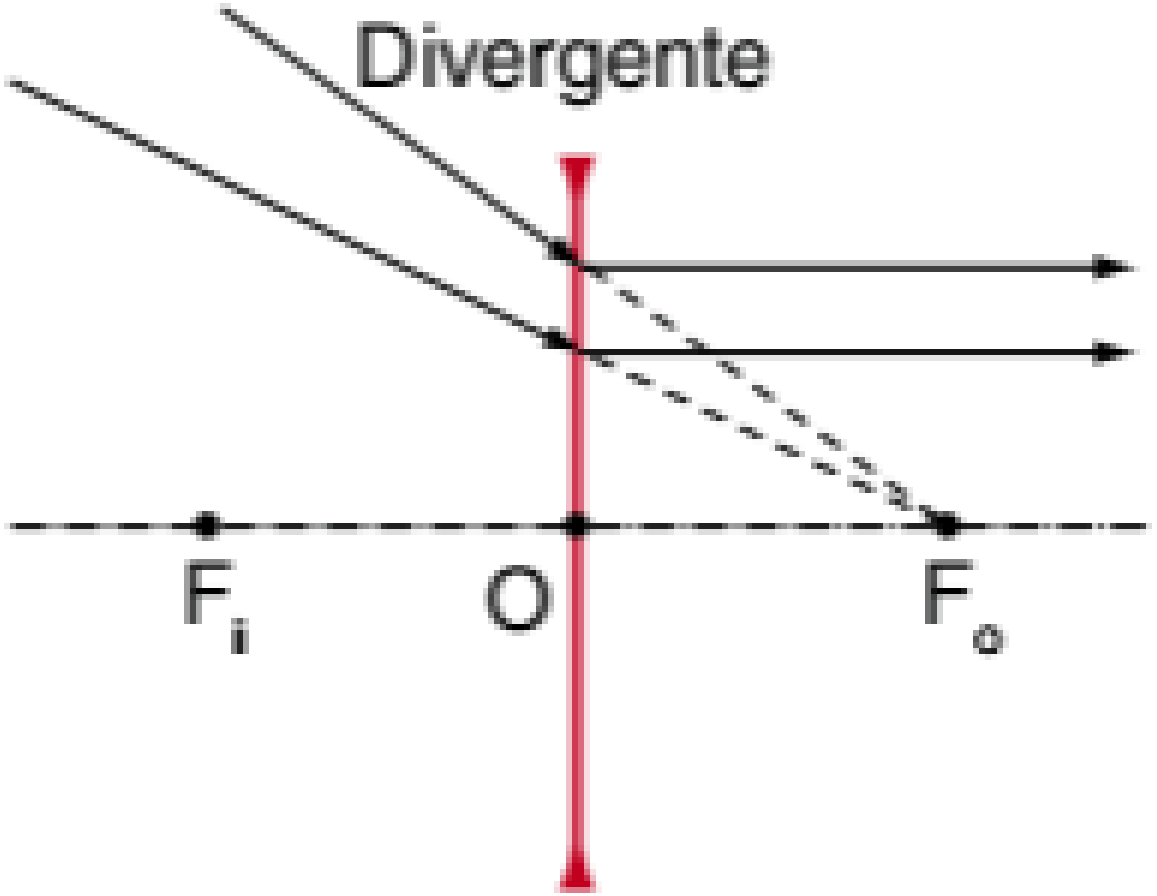
Raios Notáveis (Centro Óptico)



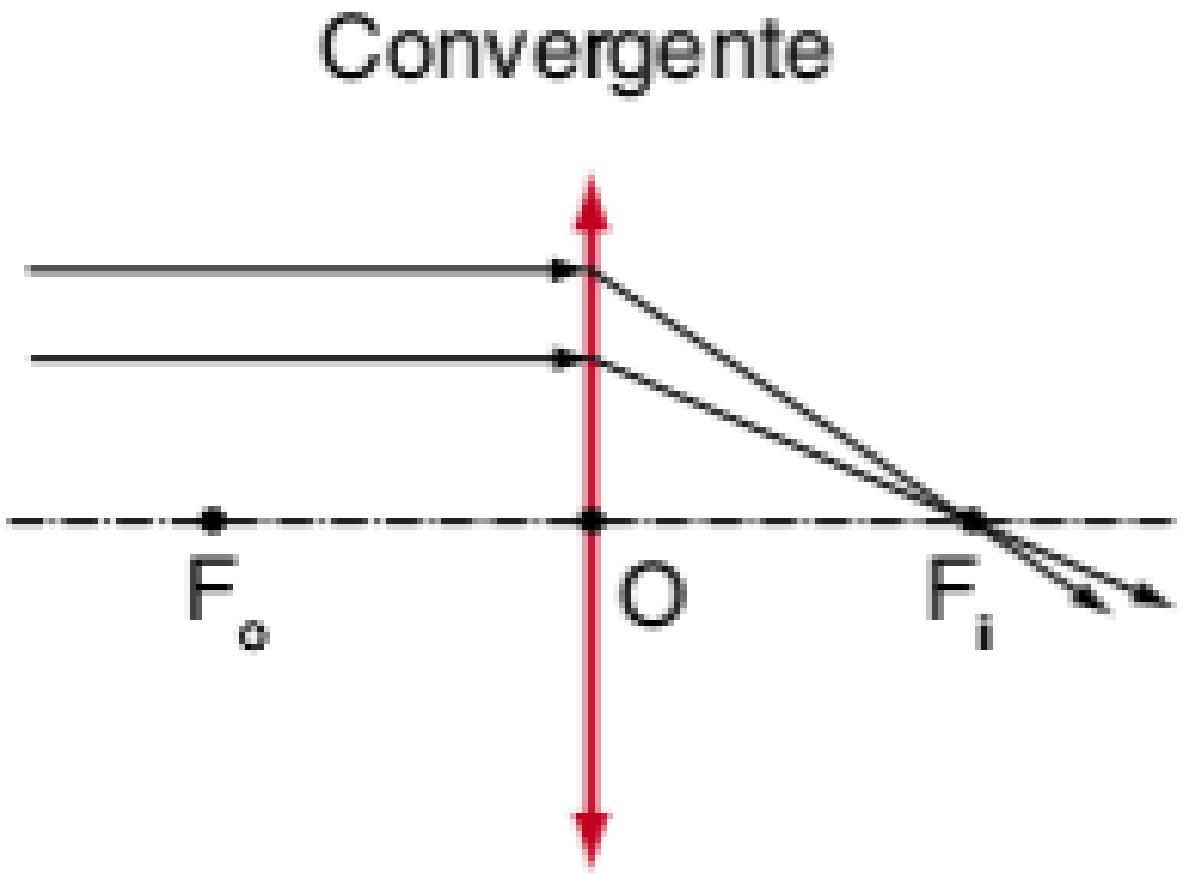


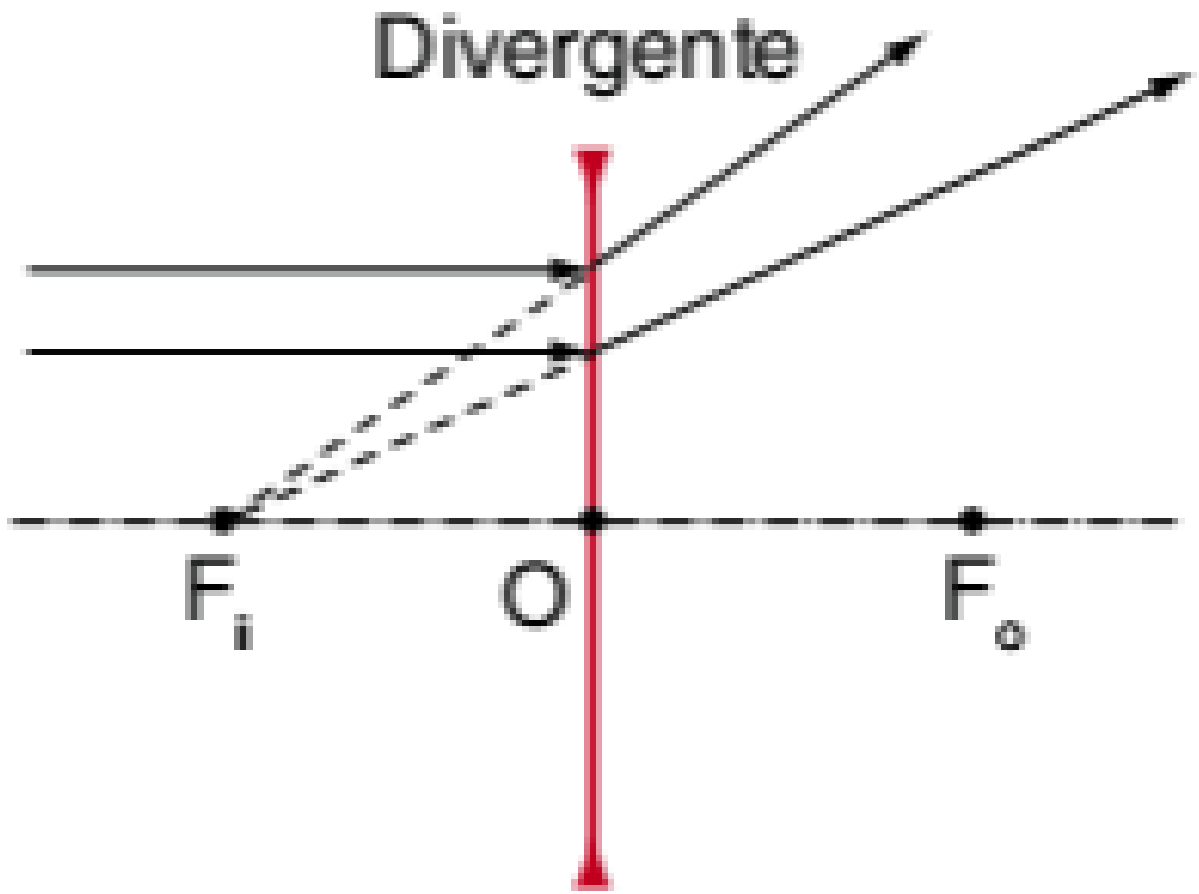
Raios Notáveis (Direção do Foco)



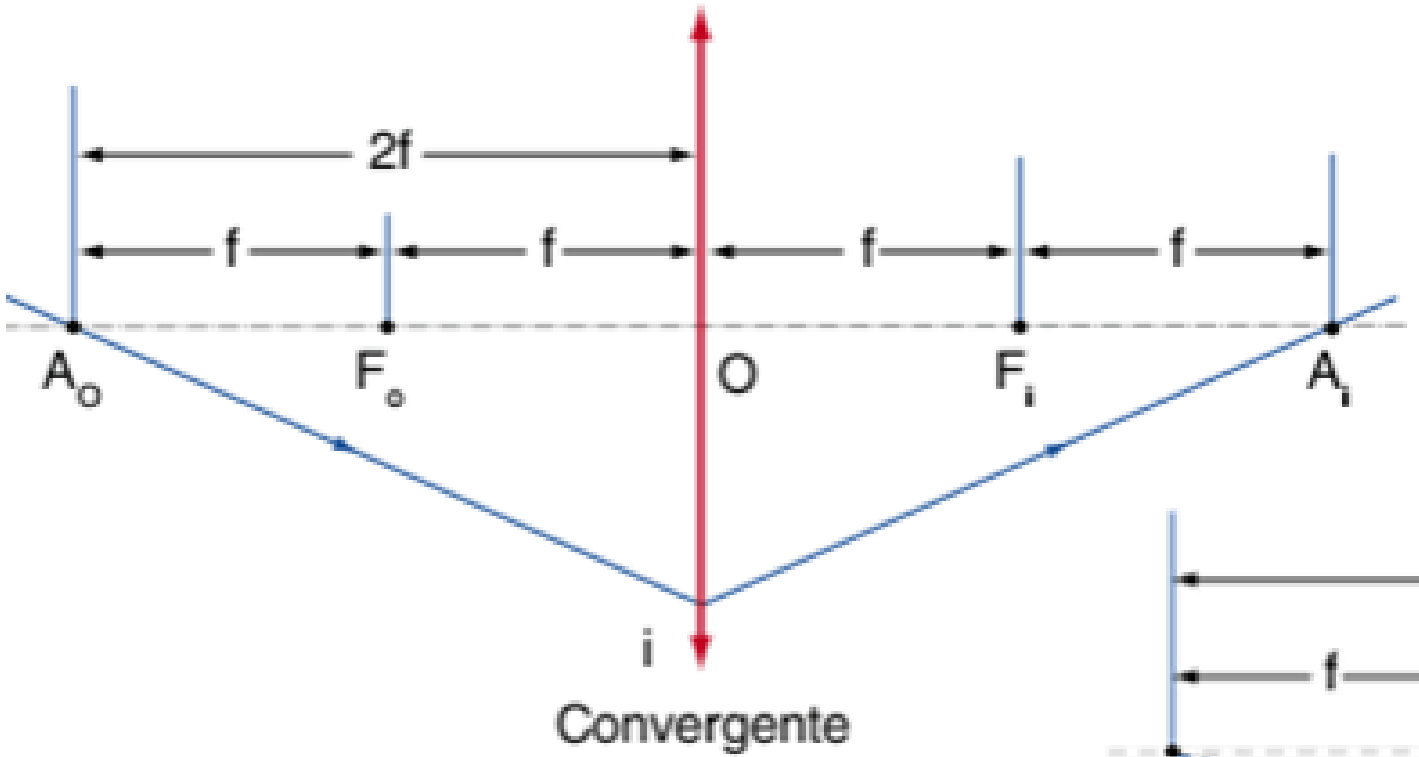


Raios Notáveis (Paralelo ao Eixo)

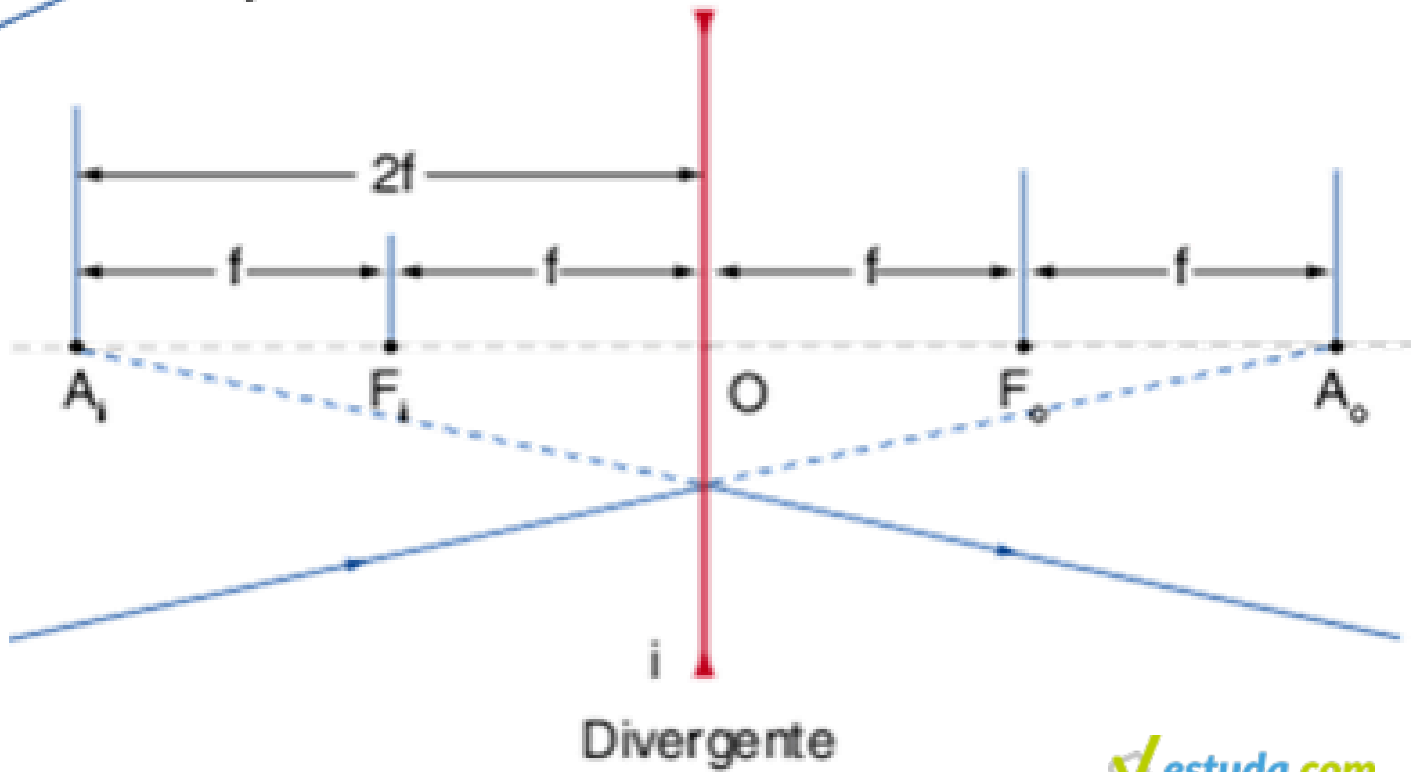




Raios Notáveis (Direção Antiprincipal)

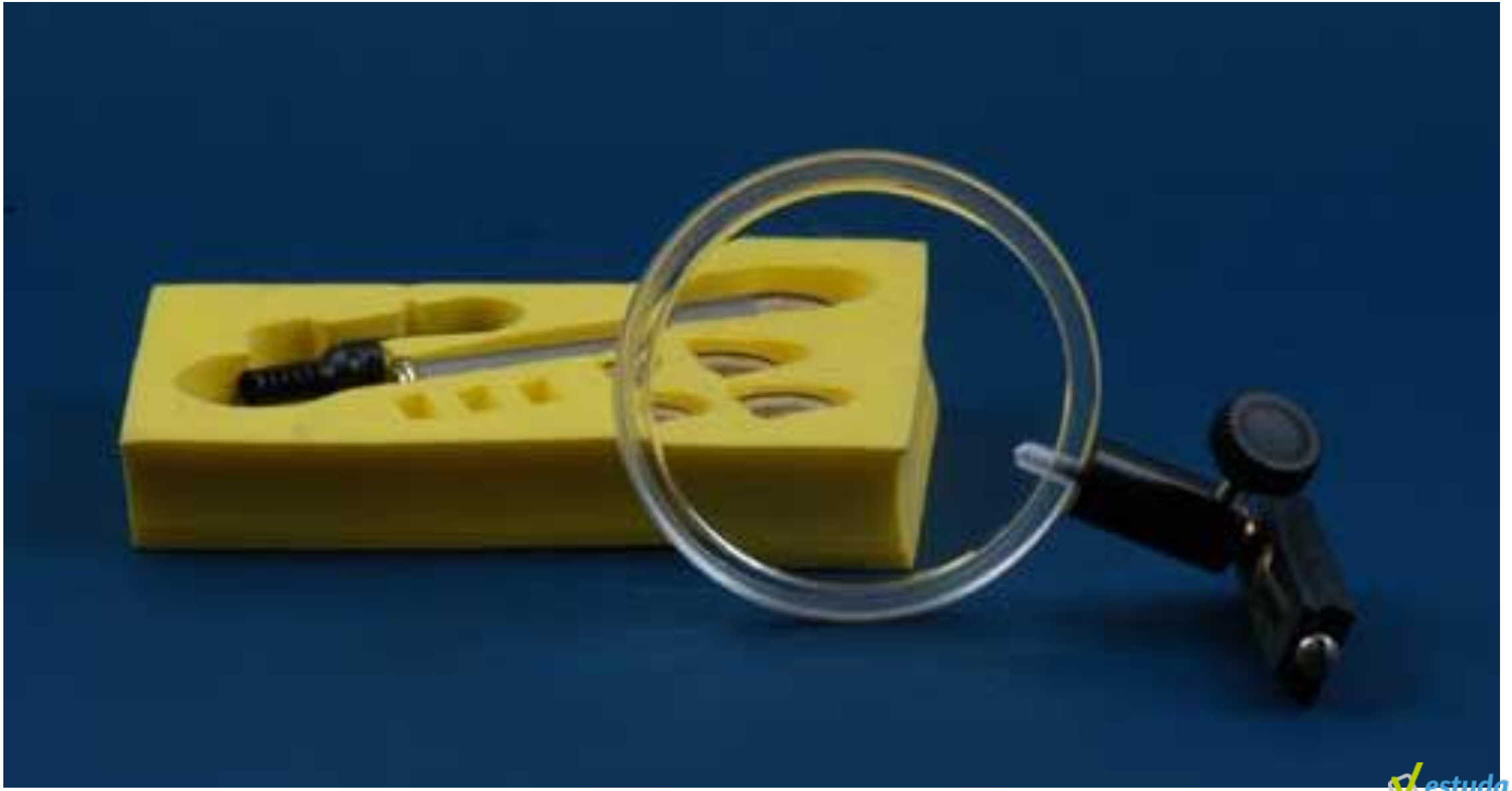


Convergente

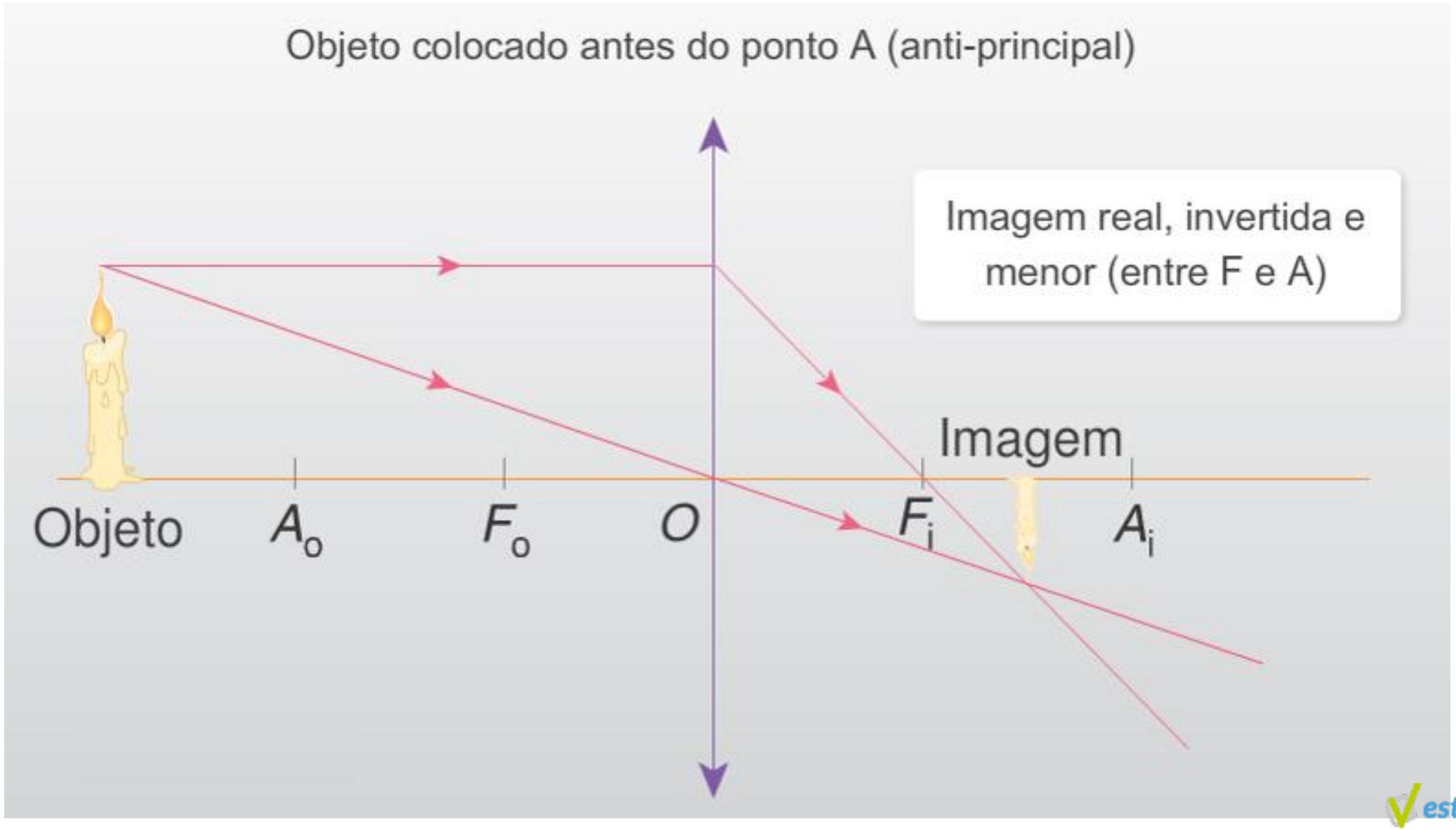


Divergente

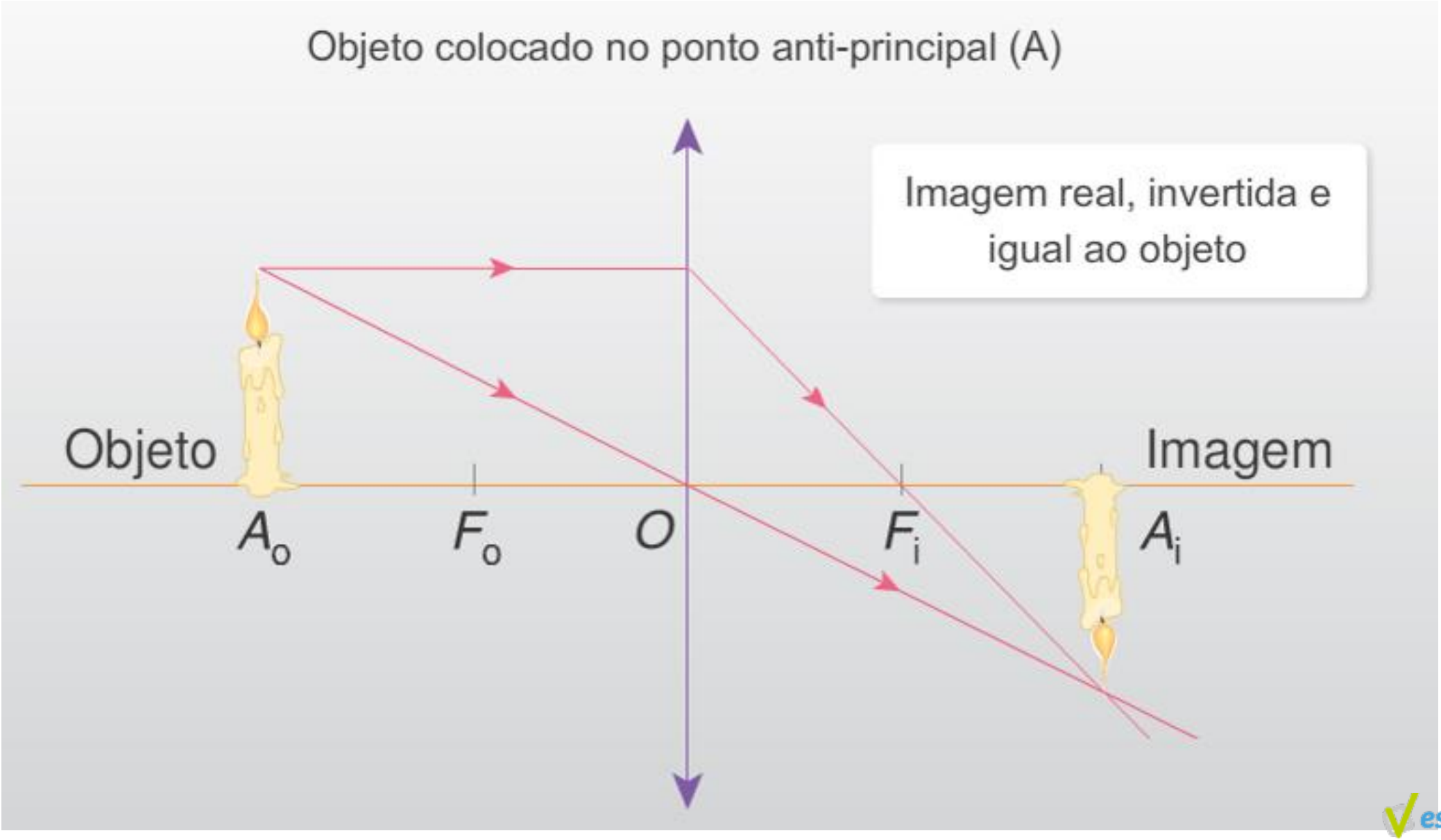
Lente Convergente



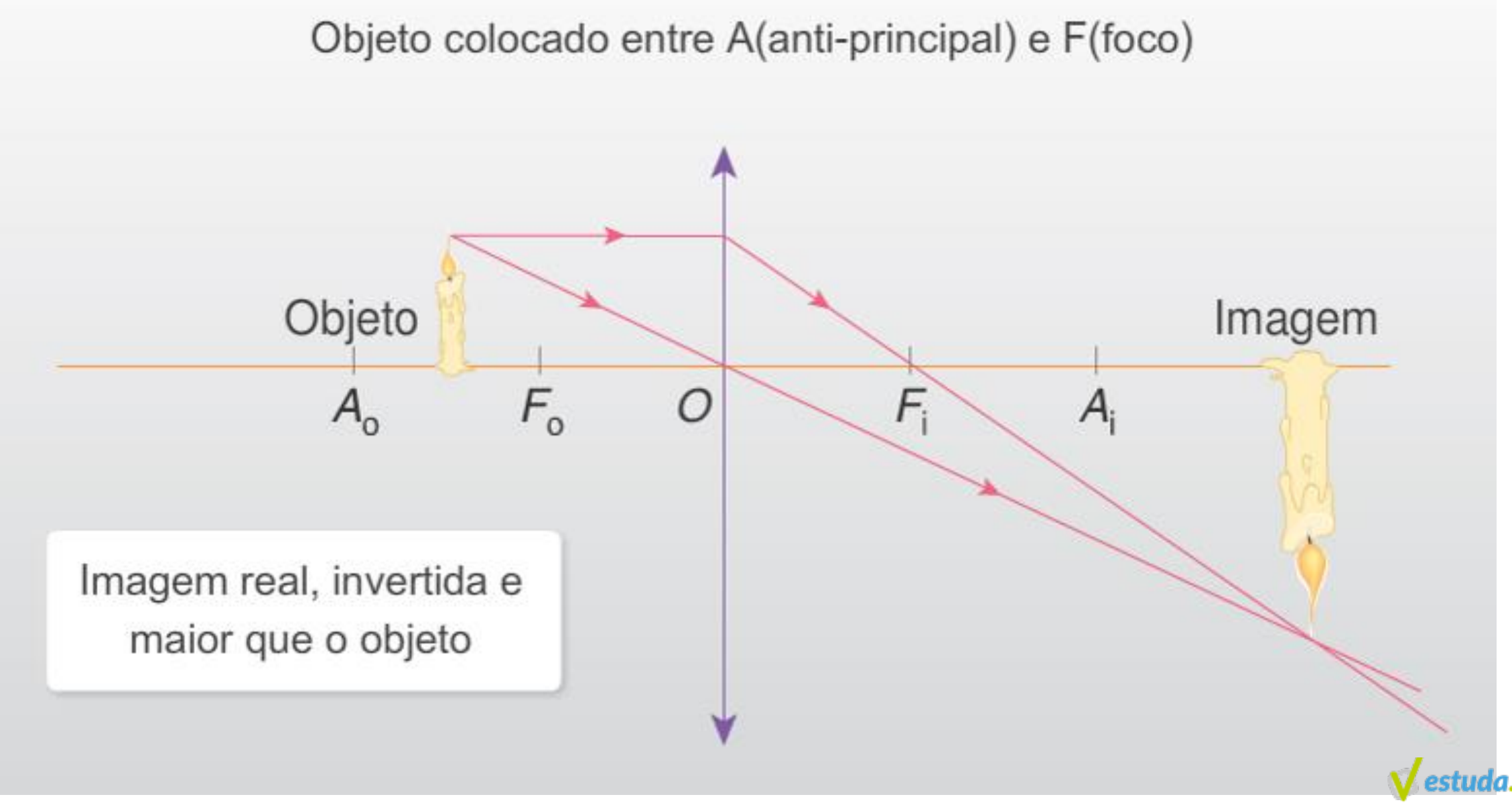
Lente Convergente (Caso 1)



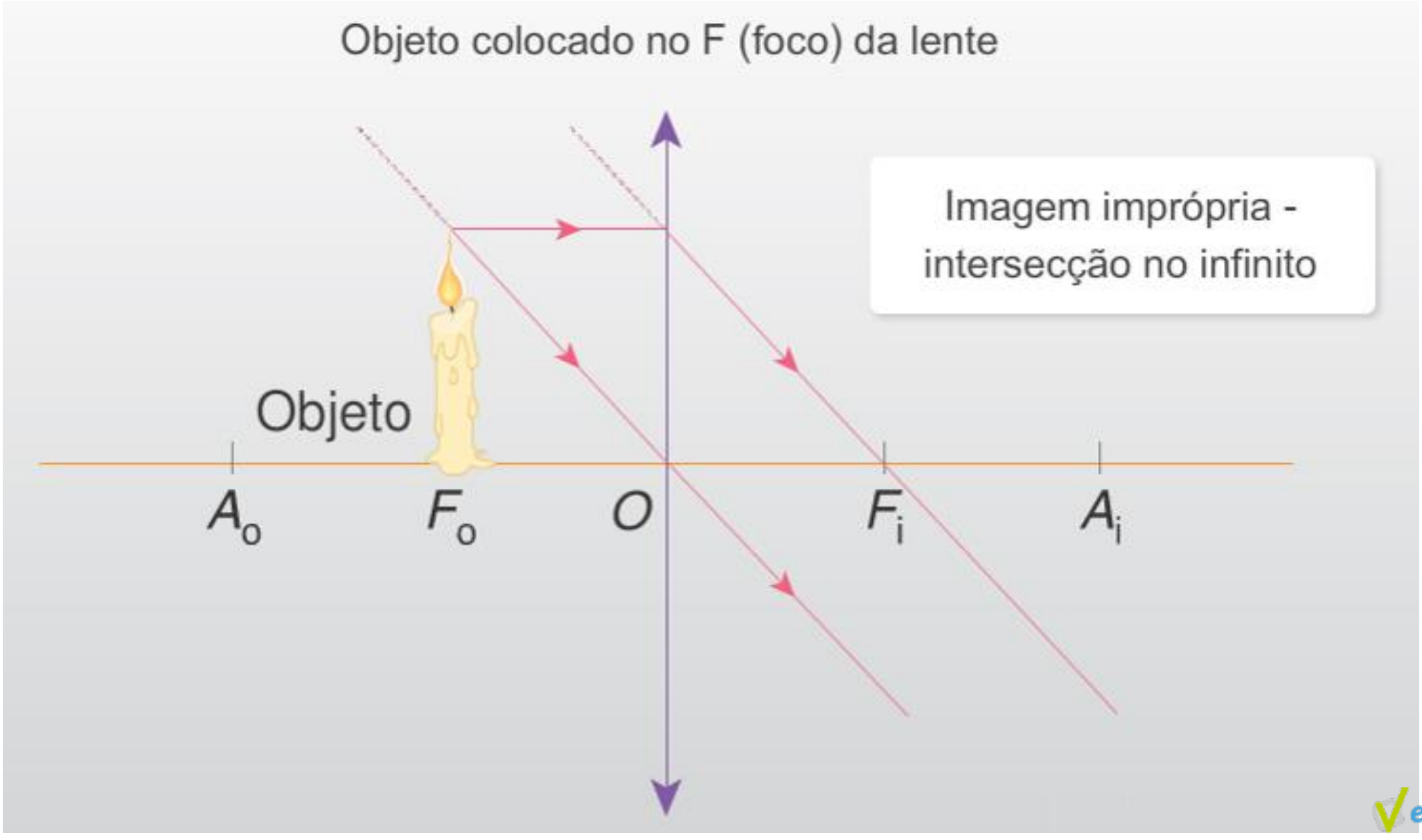
Lente Convergente (Caso 2)



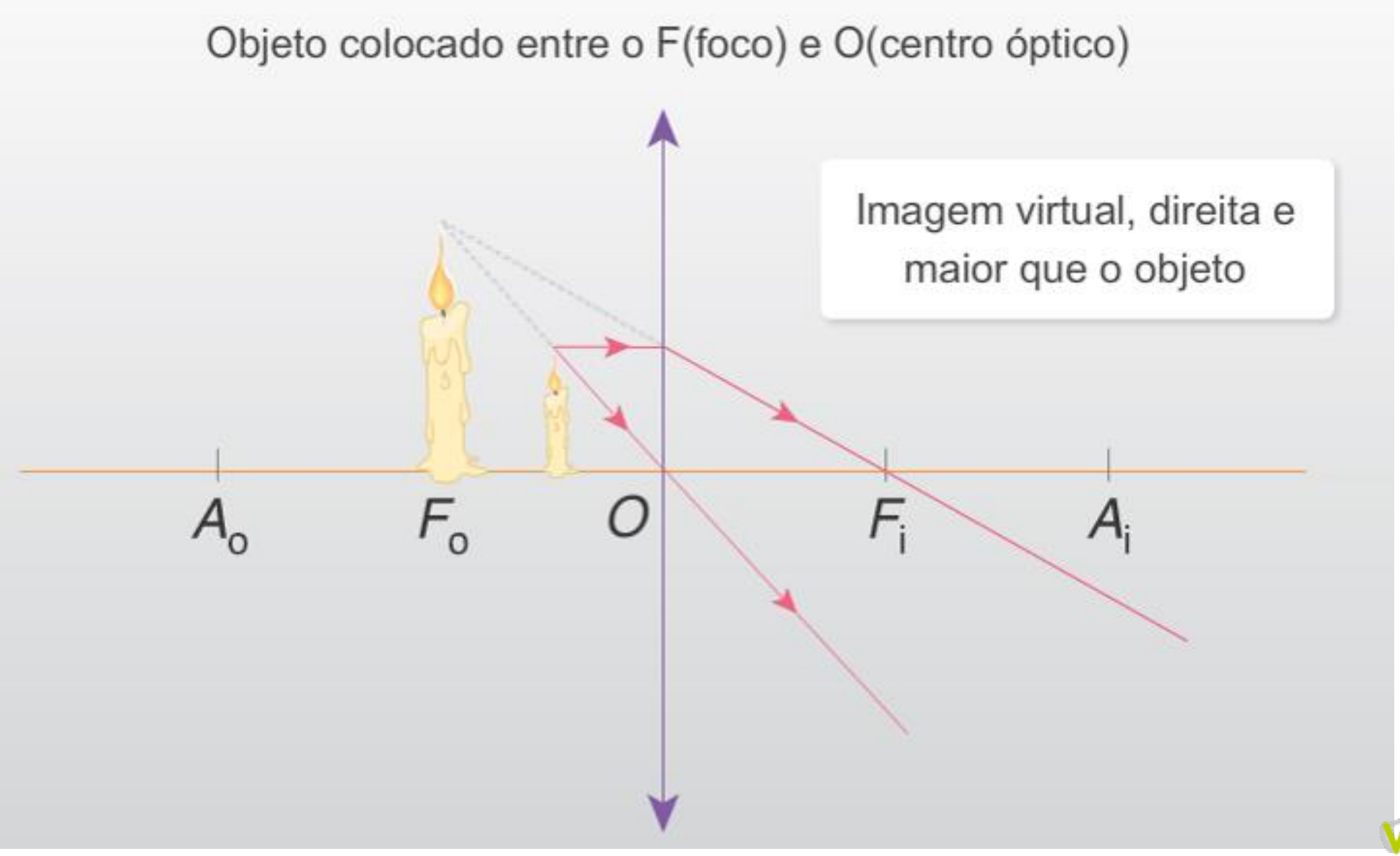
Lente Convergente (Caso 3)



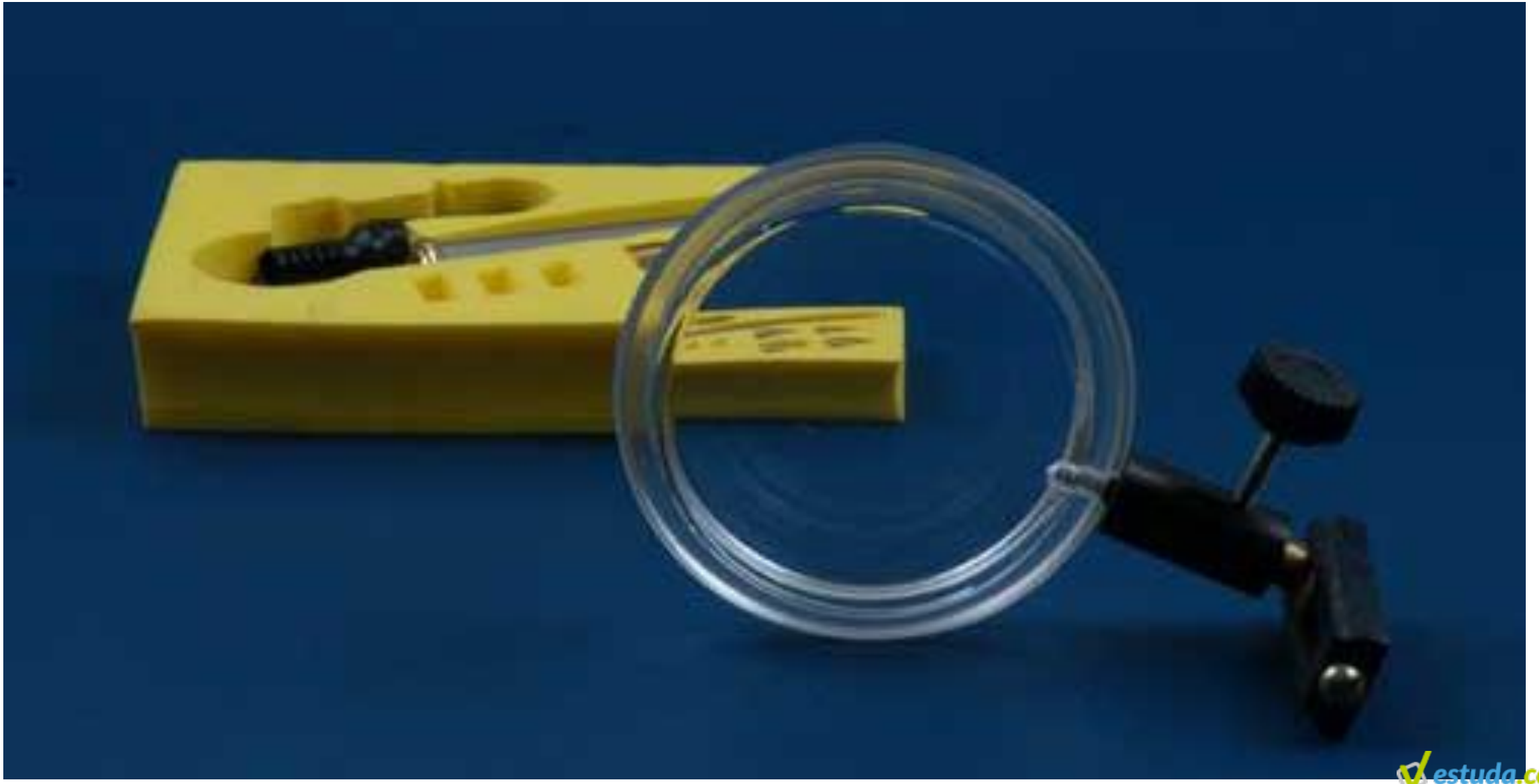
Lente Convergente (Caso 4)



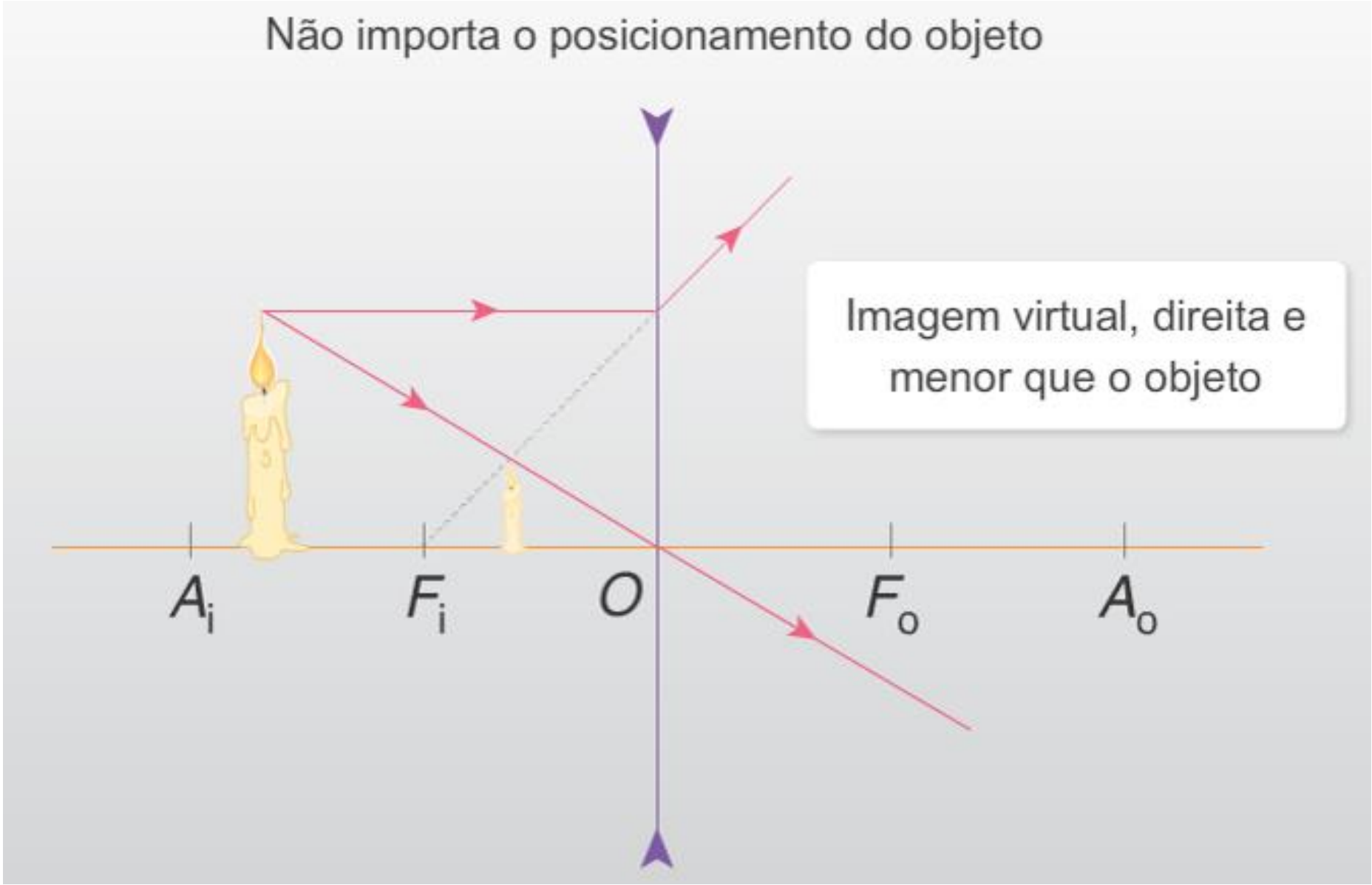
Lente Convergente (Caso 5)



Lente Divergente



Lente Divergente (Caso único)



Equações

Equação de Gauss

$$\frac{1}{f} = \frac{1}{p} + \frac{1}{p'}$$

f - distancia focal;

p - distancia objeto-lente;

p'- distancia imagem-lente;

Equação do aumento linear transversal

$$A = \frac{i}{o} = \frac{-p'}{p} = \frac{f}{f - p}$$

o - tamanho do objeto;

i - tamanho da imagem.

Vergência

Lente Convergente:

$$f > 0$$

Lente Divergente:

$$f < 0$$

Vergência da Lente:

$$(V = 1 / f)$$

Medida em dioptrias e distância focal em metros

$V > 0$ - Convergente
$V < 0$ - Divergente

OBRIGADO!

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