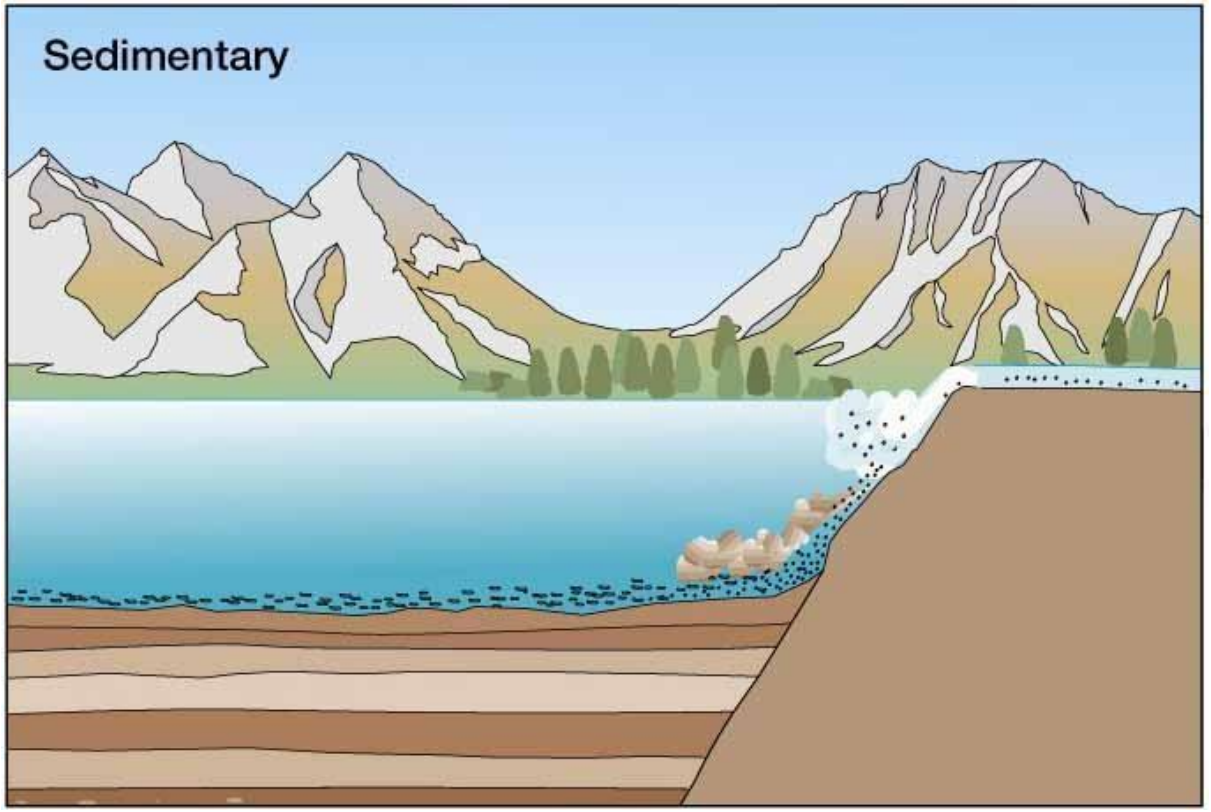
XEOLOXÍA ESTRUTURAL

DEFORMACIÓN = CAMBIO DE FORMA



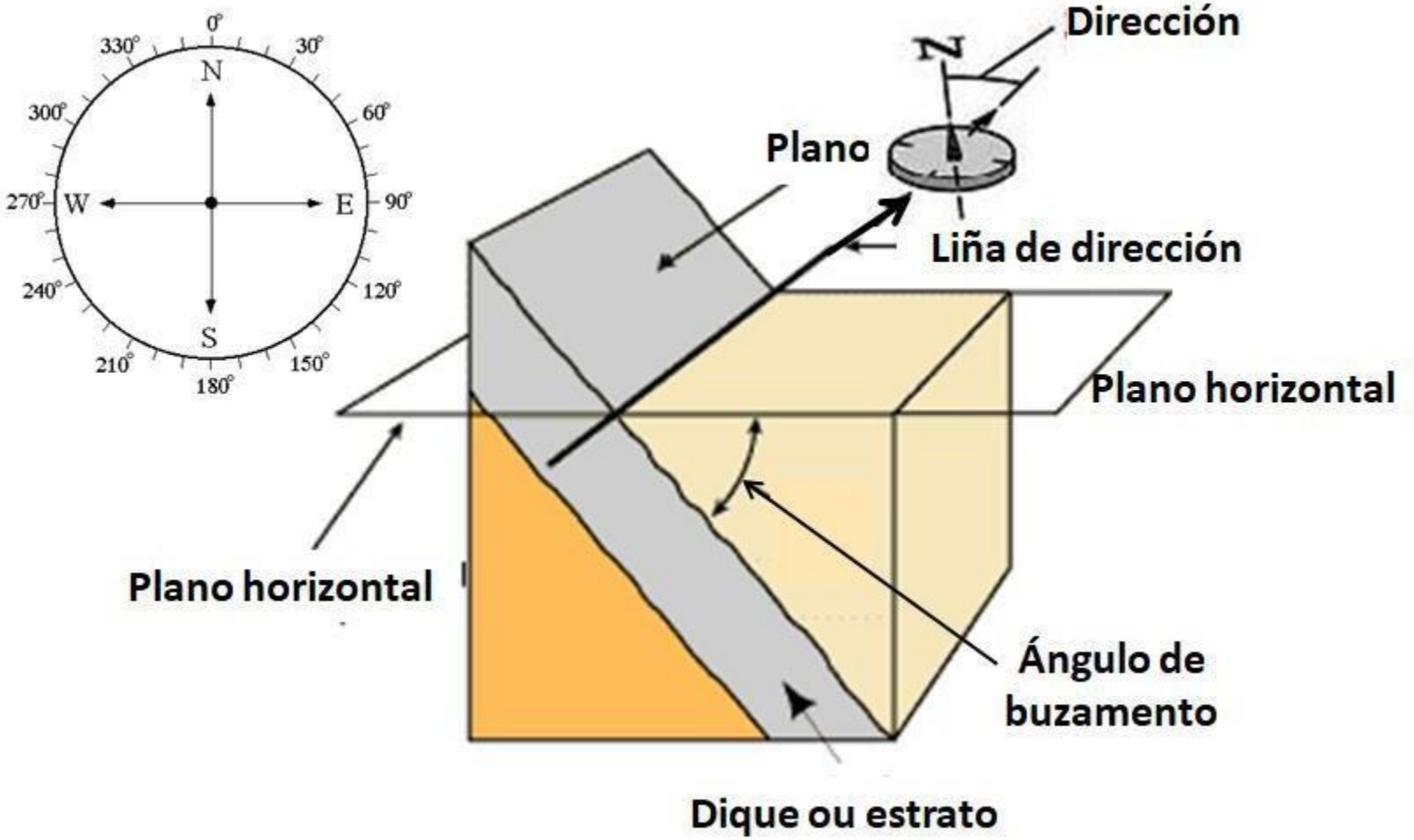
ESTRATO COMO REFERENCIA

ESTRATOS DEFORMADOS POLA ACCION DUN ESFORZO

ROCHA SEN DEFORMAR

ESTRUTURA DE DEFORMACIÓN

DIRECCIÓN E BUZAMENTO DUN PLANO XEOLÓXICO

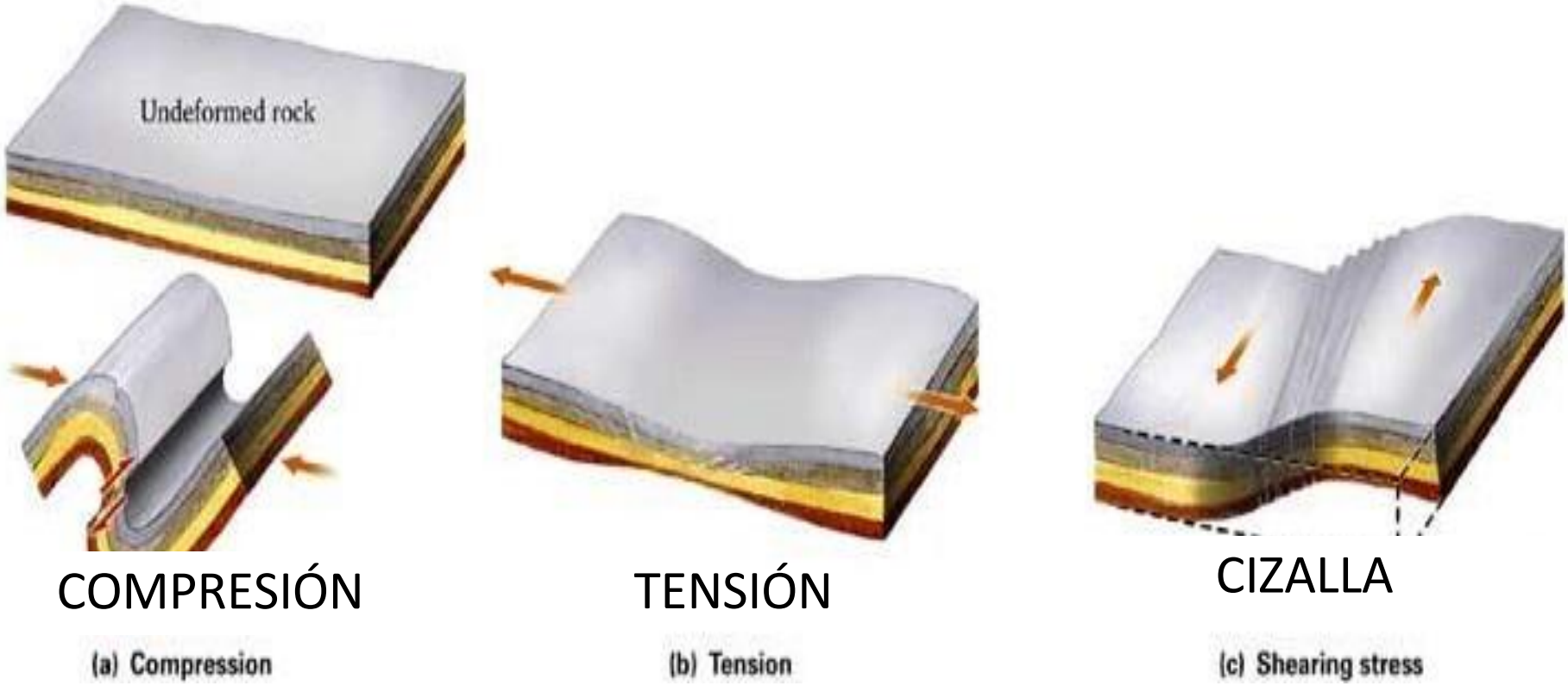


FACTORES QUE AFECTAN Á DEFORMACIÓN

- TIPO DE ESFORZO
- PROPIEDADES MECÁNICAS DOS MATERIAIS (ROCHAS)
- CONDICIÓNS AMBIENTAIS

TIPO DE ESFORZO

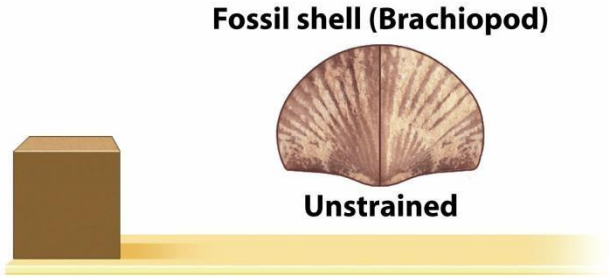
ROCHA SEN DEFORMAR
EXEMPLO: ESTRATOS HORIZONTAIS

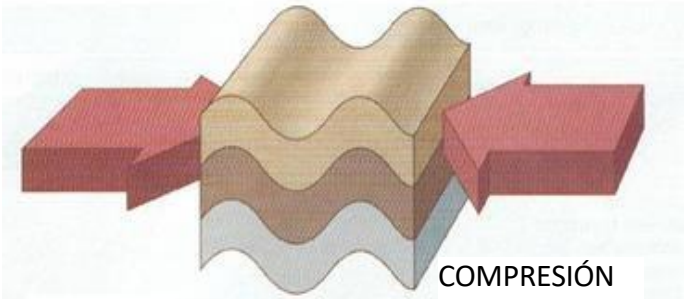


COMPRESIÓN

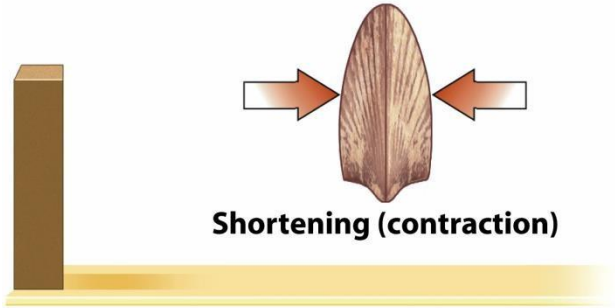
TENSIÓN

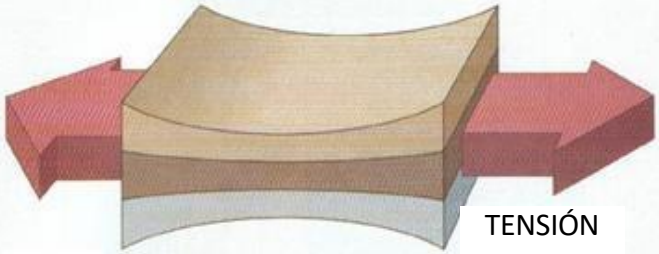
CIZALLA





COMPRESIÓN





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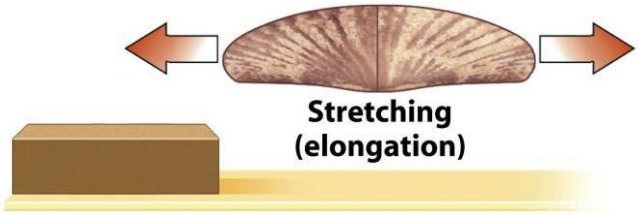
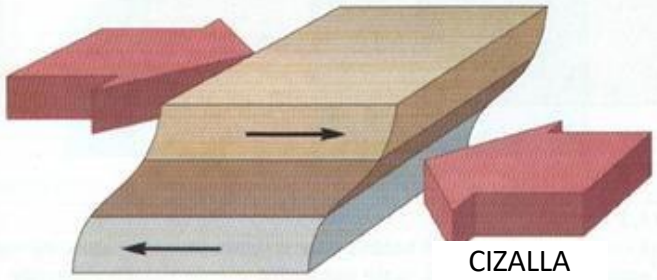
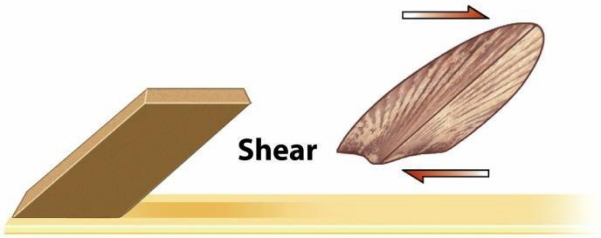
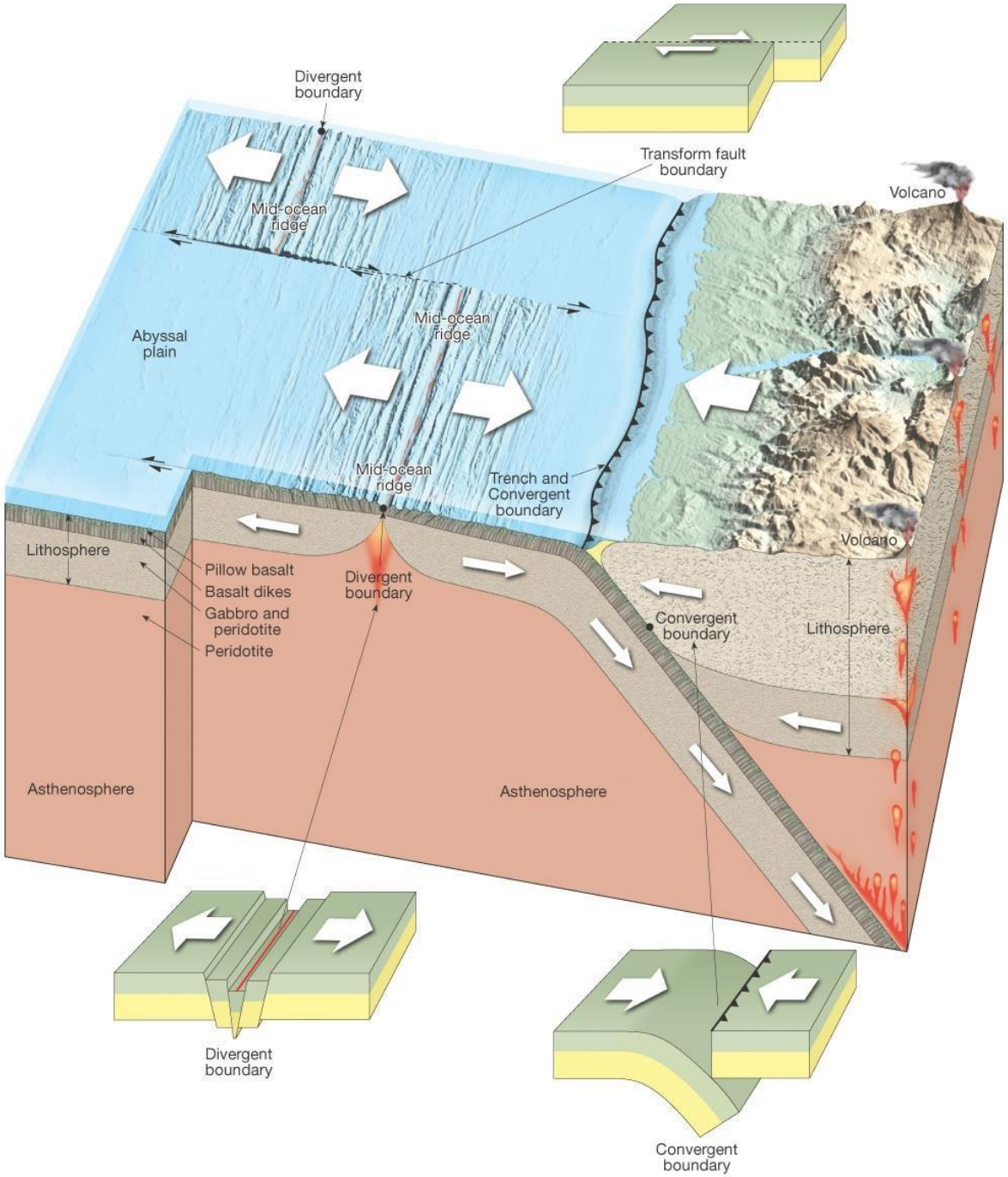


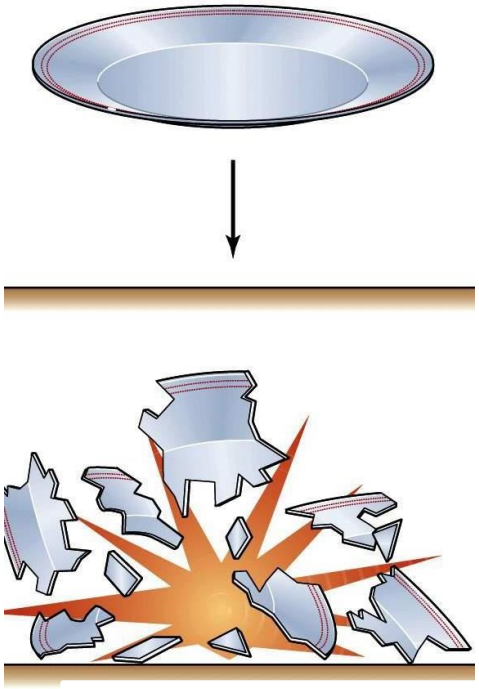


CIZALLA

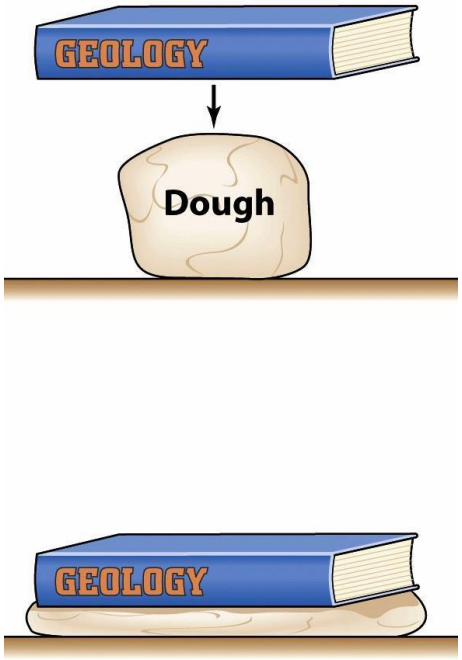




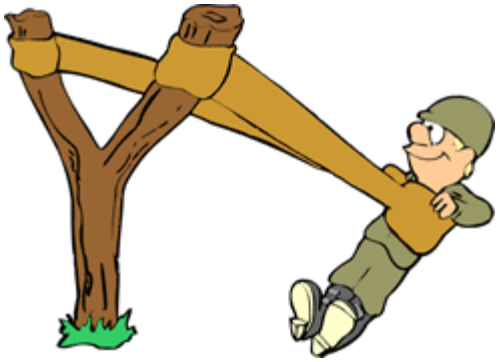
PROPIEDADES FÍSICAS DOS MATERIAIS



Fraxilidade



Plasticidade

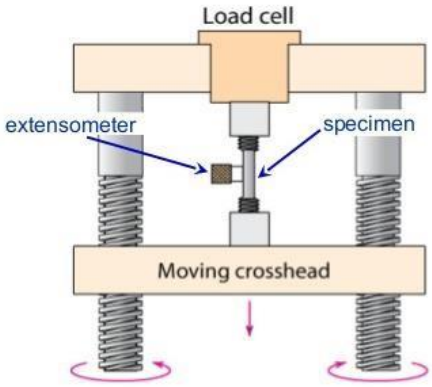


Elasticidade

CONDICIÓNS EXTERNAS

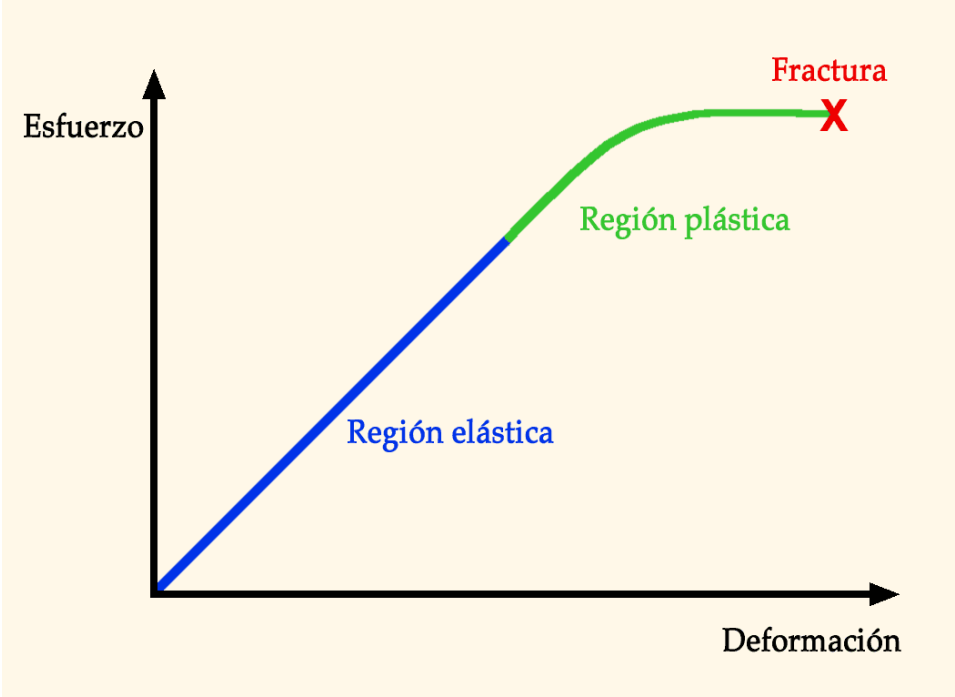
PRESIÓN, TEMPERATURA , HUMIDADE

AMPLIACIÓN: A CURVA ESFORZO-DEFORMACIÓN

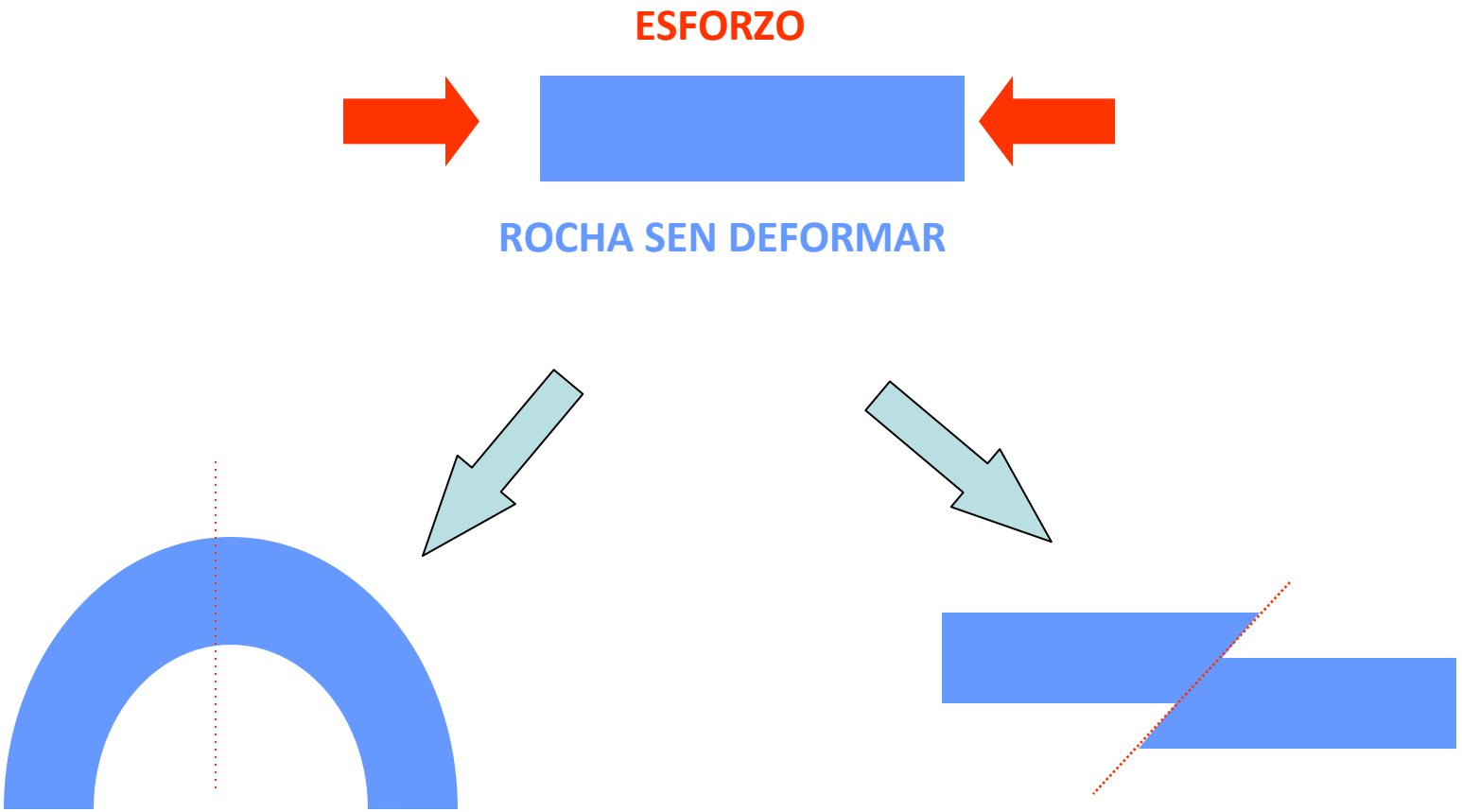


O comportamento mecánico dun material depende tamén da intensidade do esforzo aplicado como queda recollido na gráfica da figura. Utilizando o aparello da imaxe se aplica unha forza crecente que se representa no eixo das Y e se mide a deformación do material sometido a proba que se sitúa no eixo das X.

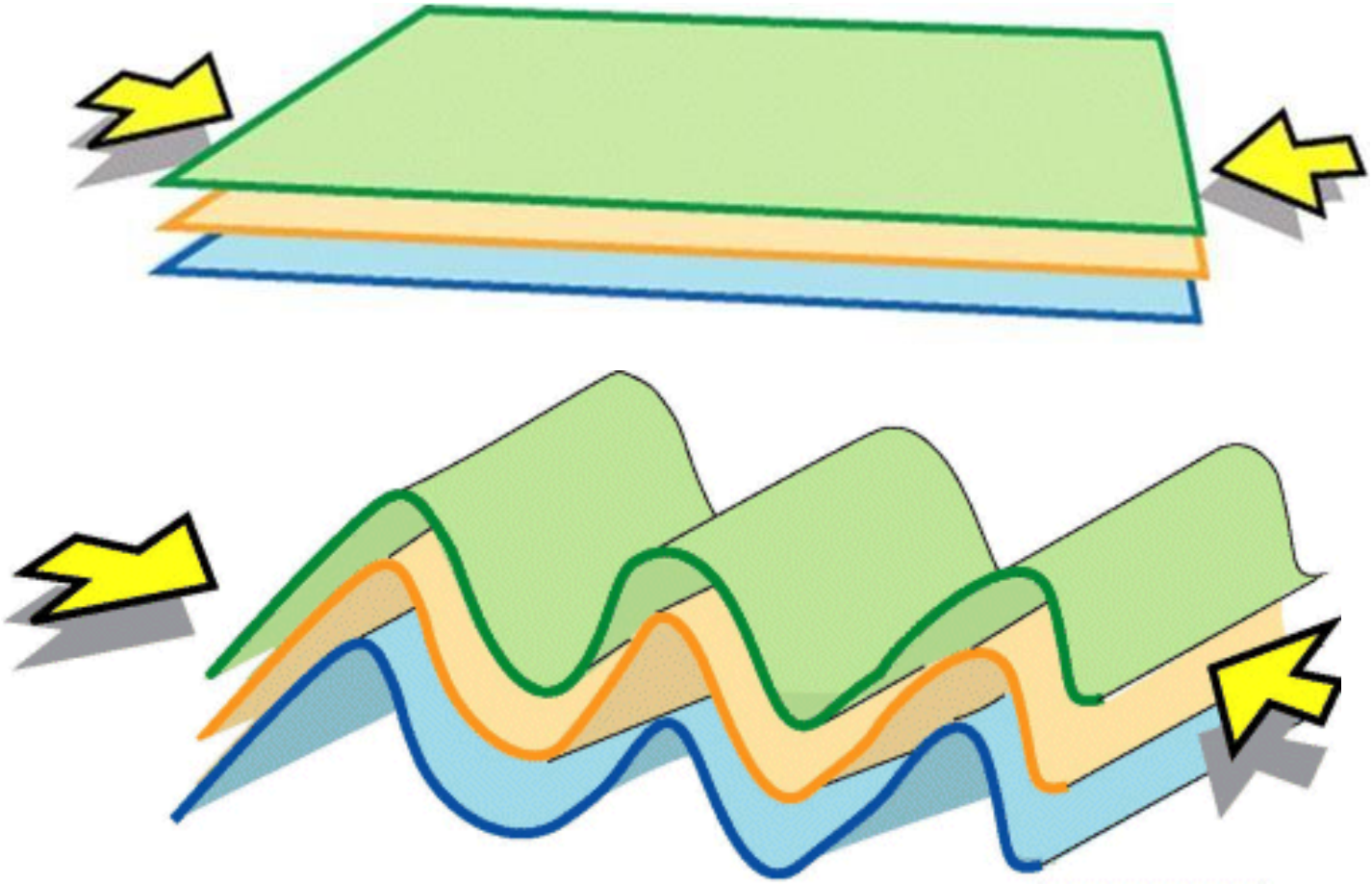
Ao principio a extesión do materia é directamente proporcional ao esforzo aplicado o que nos indica unha deformación elástica pero a medida que se incrementa o esforzo o material se estira moito máis, sinal dunha derormación plastica. Se aumentamos ainda máis o esforzo chegamos a o **límite de rotura** onde o material racha.



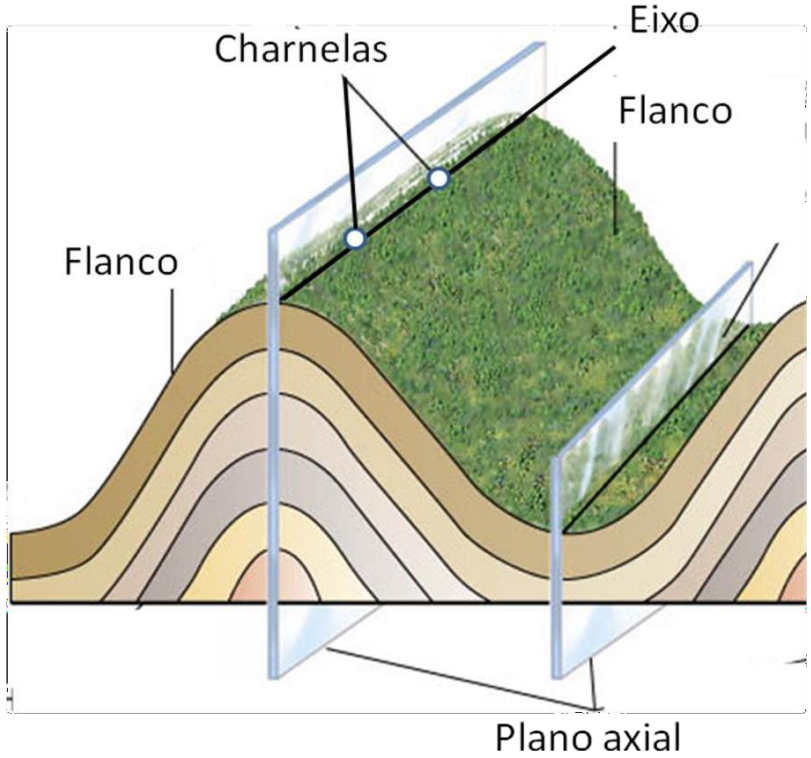
ESTRUCTURAS DE DEFORMACIÓN



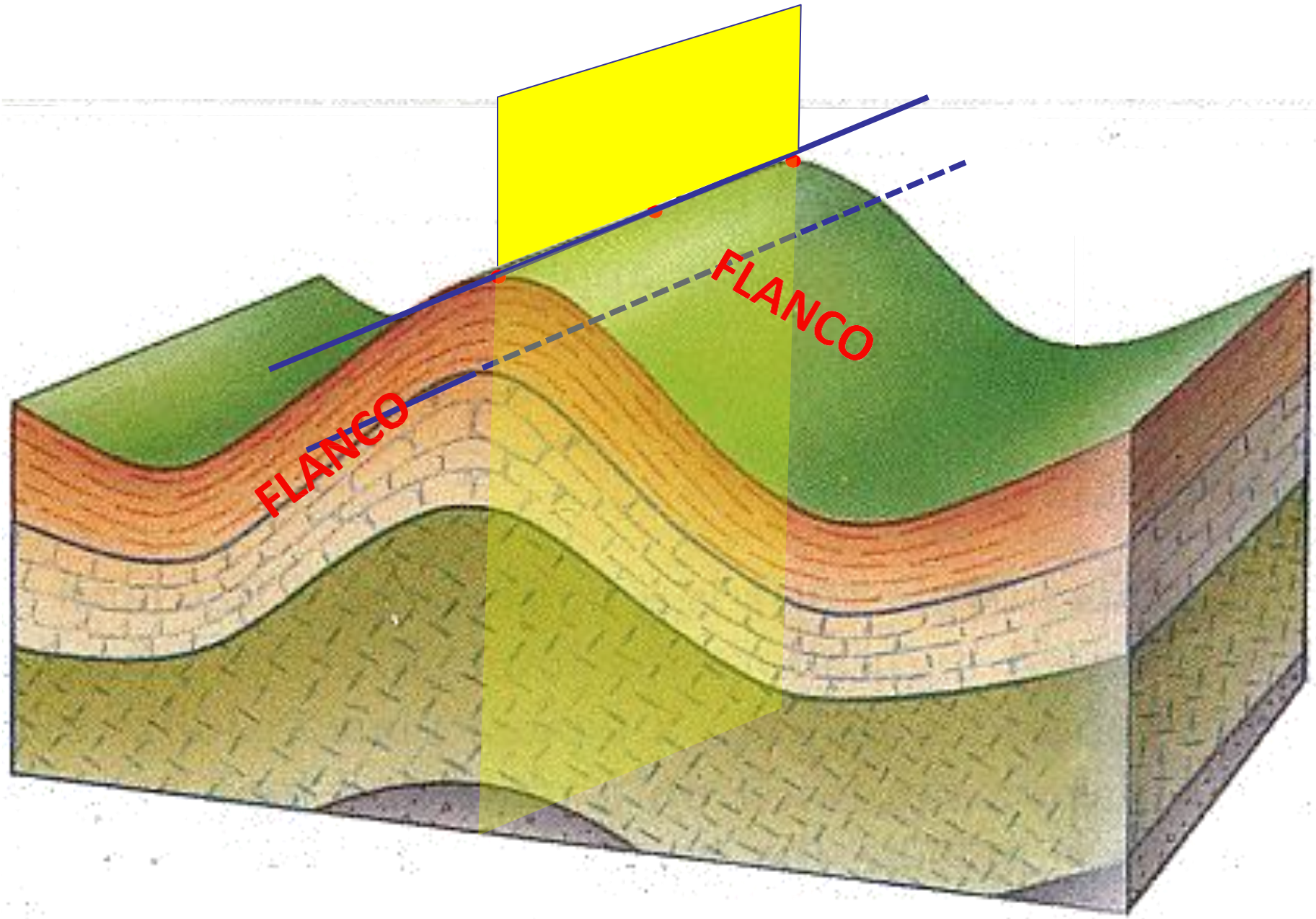
OS PREGAMENTOS
DOBRAS NAS ROCHAS



PARTES DUN PREGAMENTO

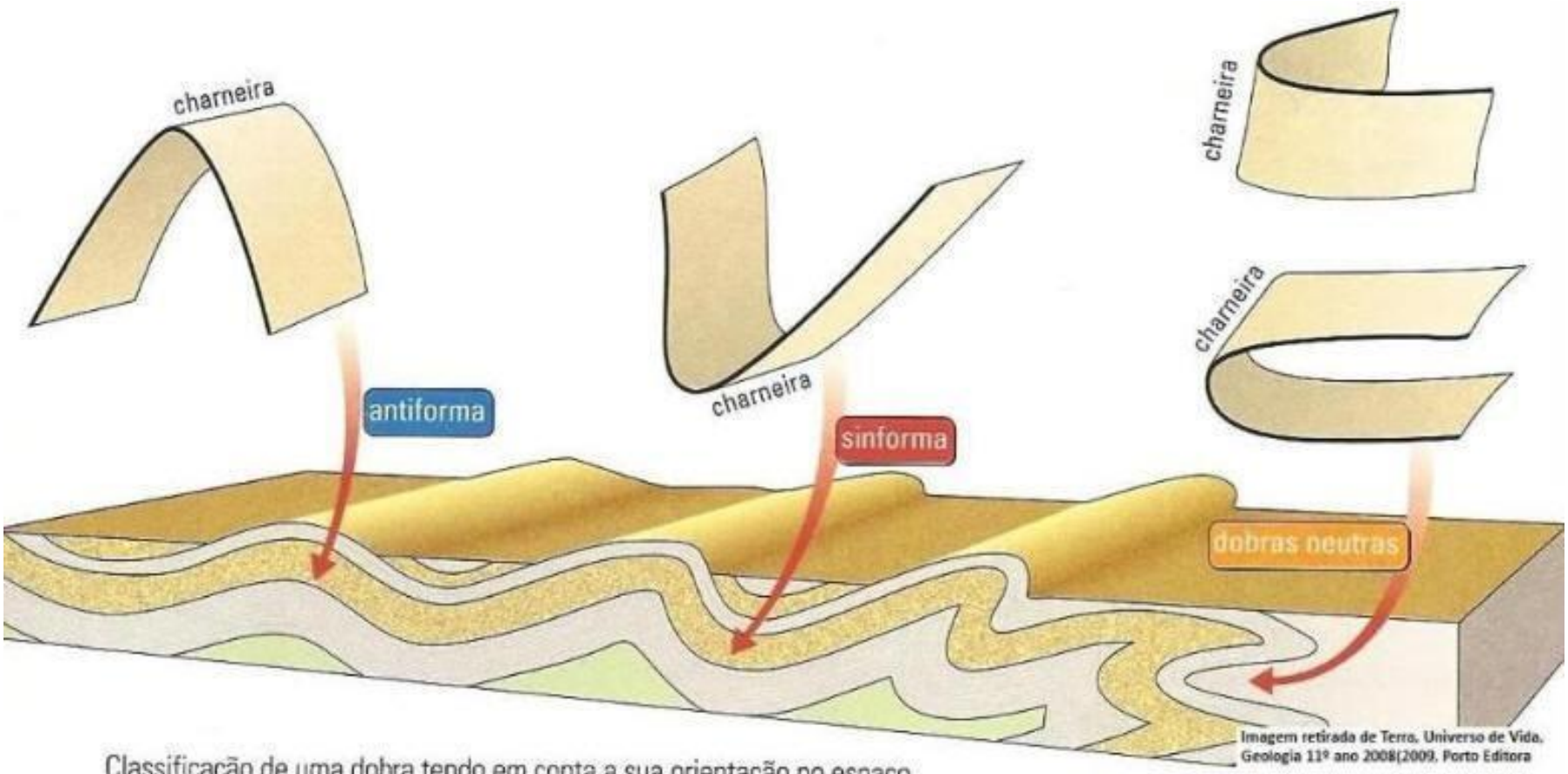


ELEMENTOS XEOMÉTRICOS


FLANCO
FLANCO

TIPOS DE PREGAMENTOS

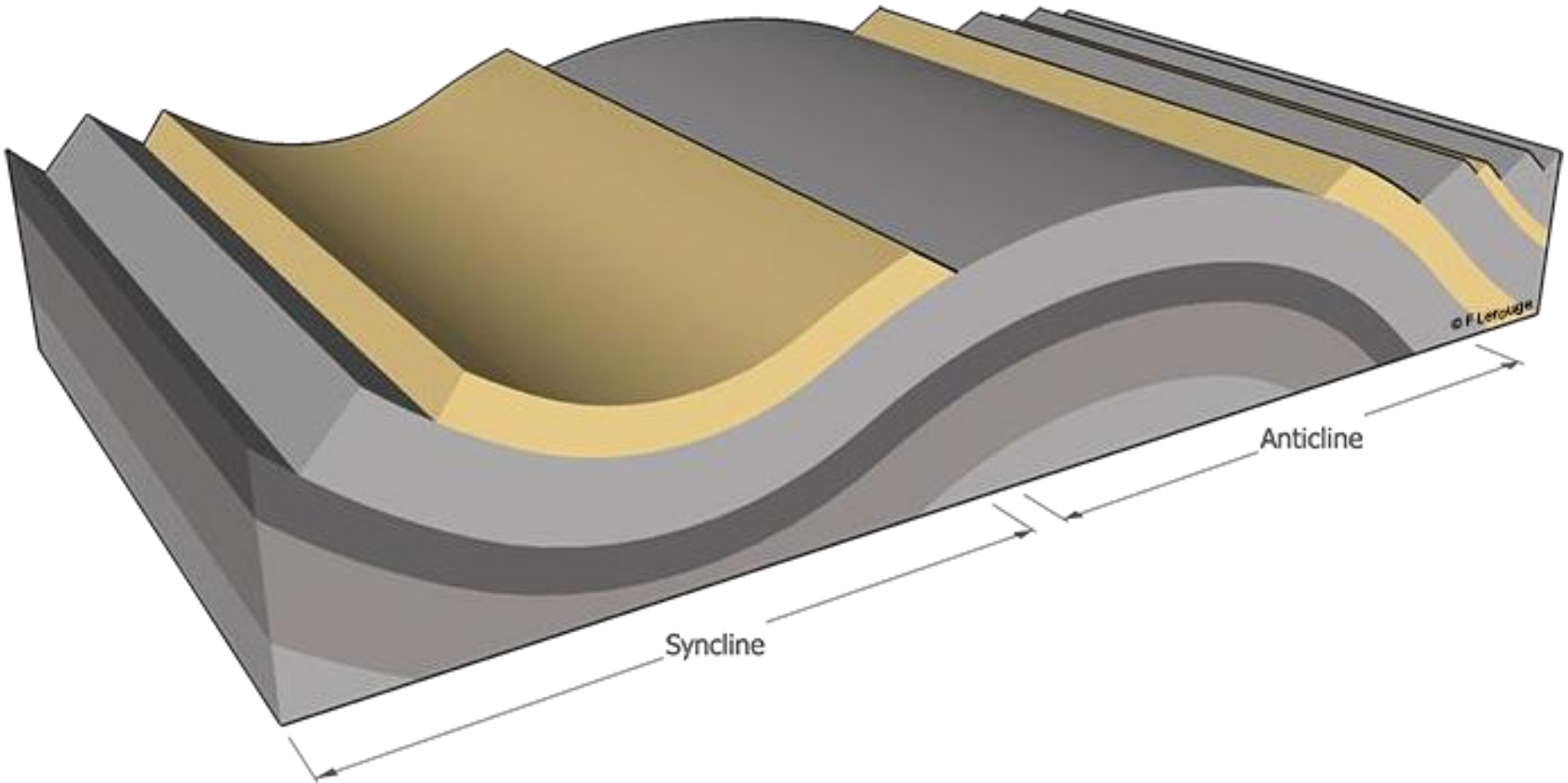
SEGUNDO A CURVATURA

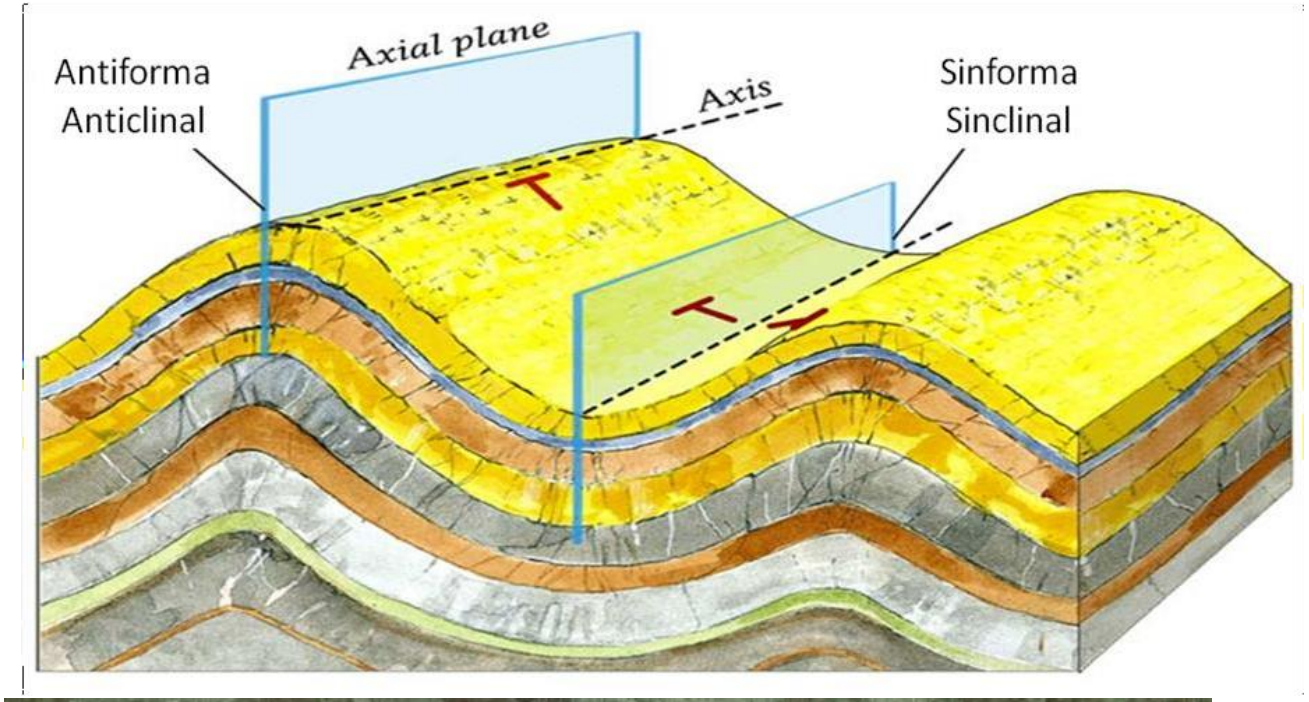


Classificação de uma dobra tendo em conta a sua orientação no espaço.

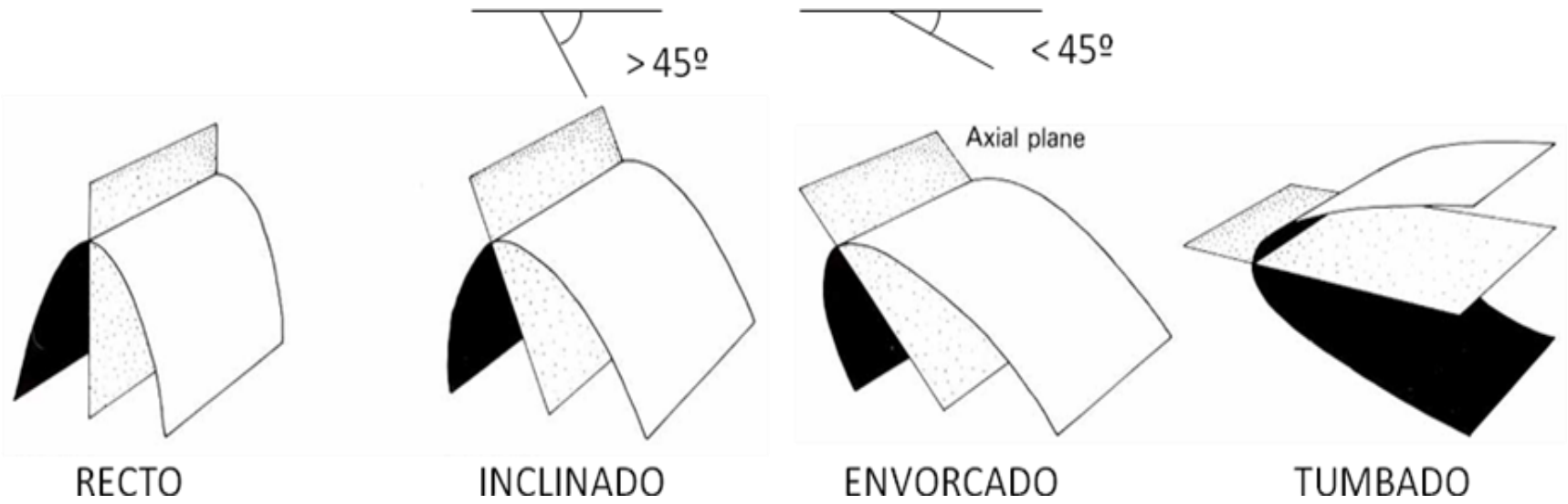
Imagem retirada de Terra. Universo de Vida. Geologia 11º ano 2008(2009. Porto Editora

SEGUNDO A ANTIGUEDADE DOS ESTRATOS

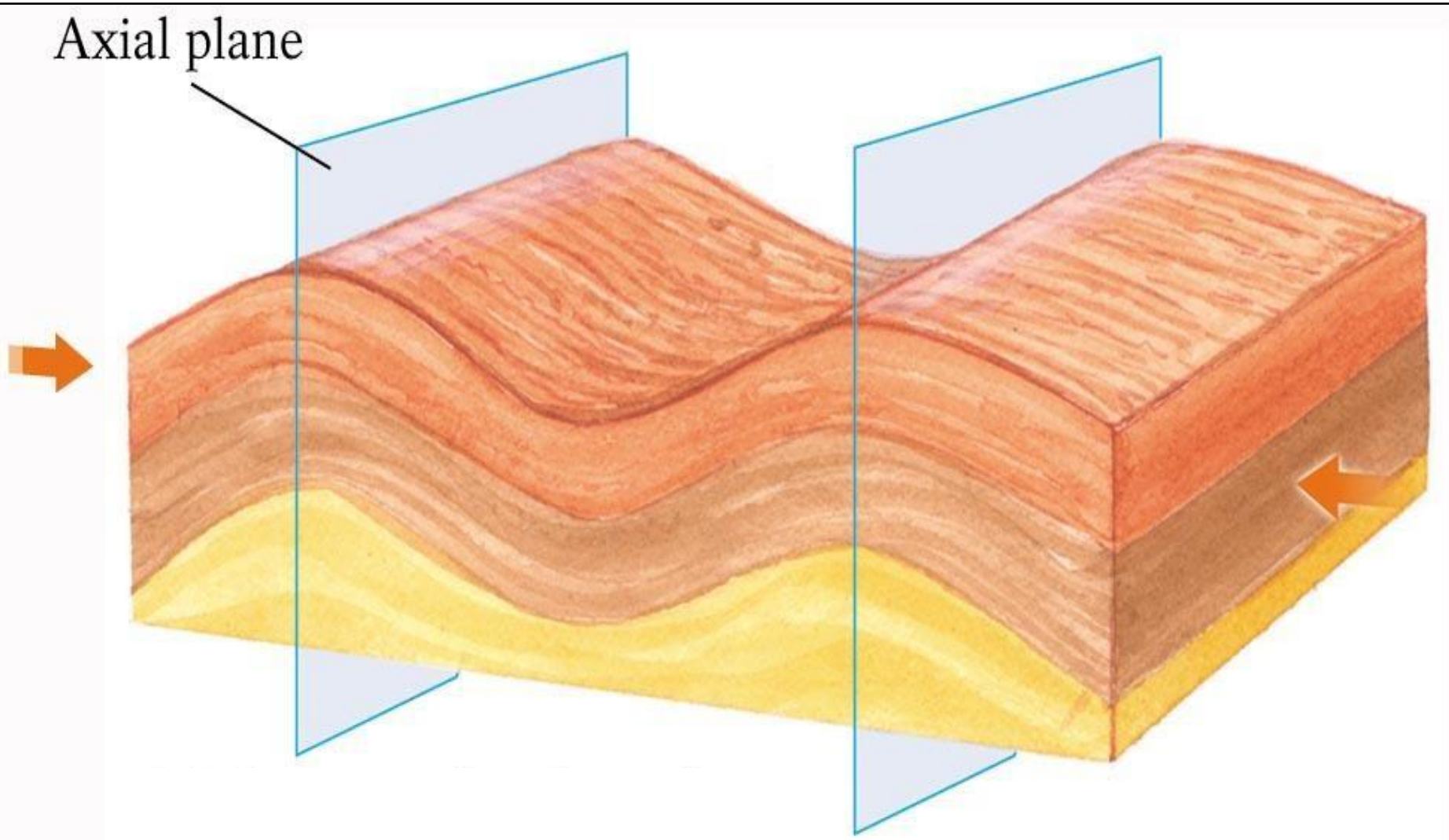



Axial plane
Antiforma
Anticlinal
Axis
Sinforma
Sinclinal

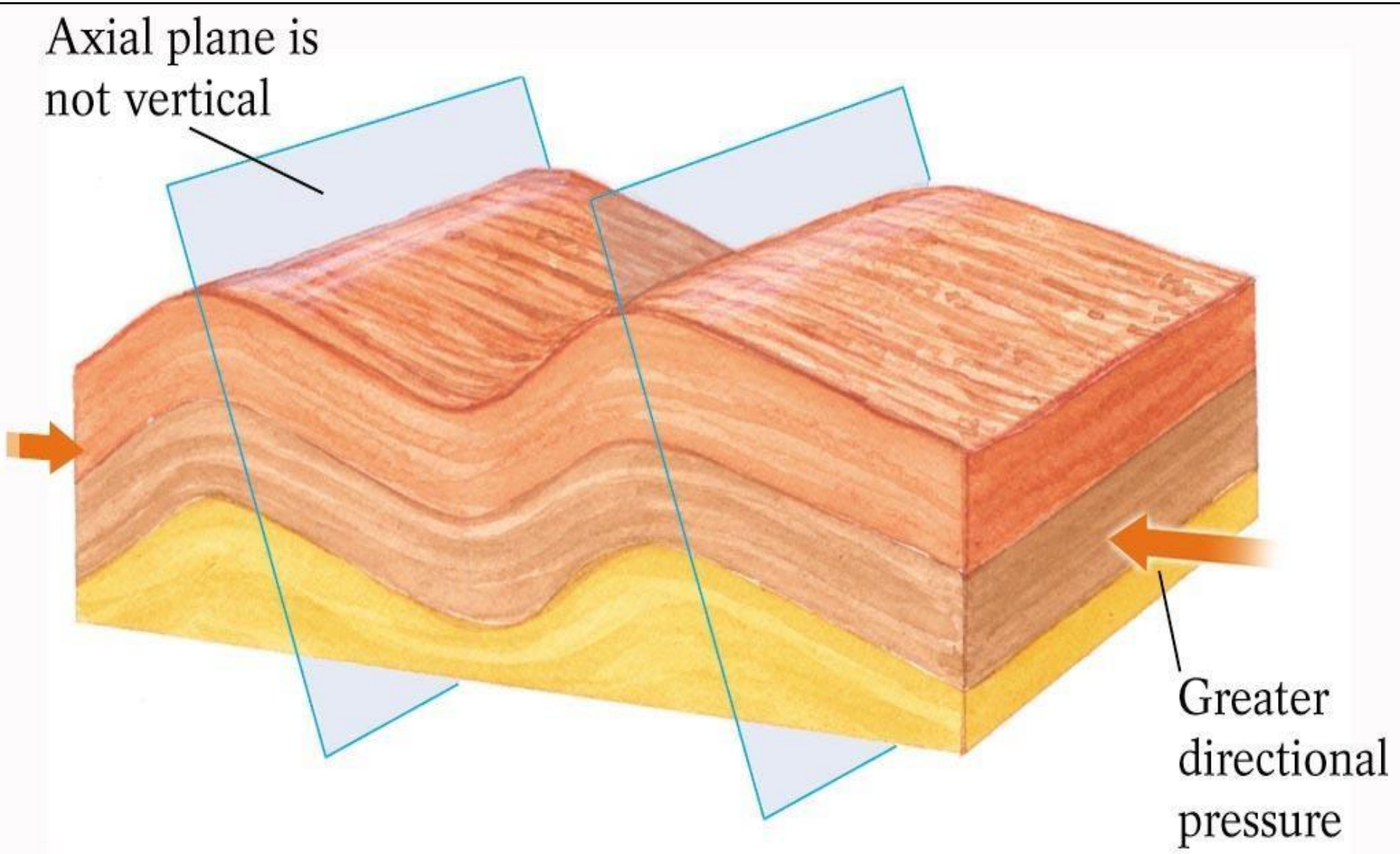
SEGUNDO A POSICIÓN PLANO AXIAL



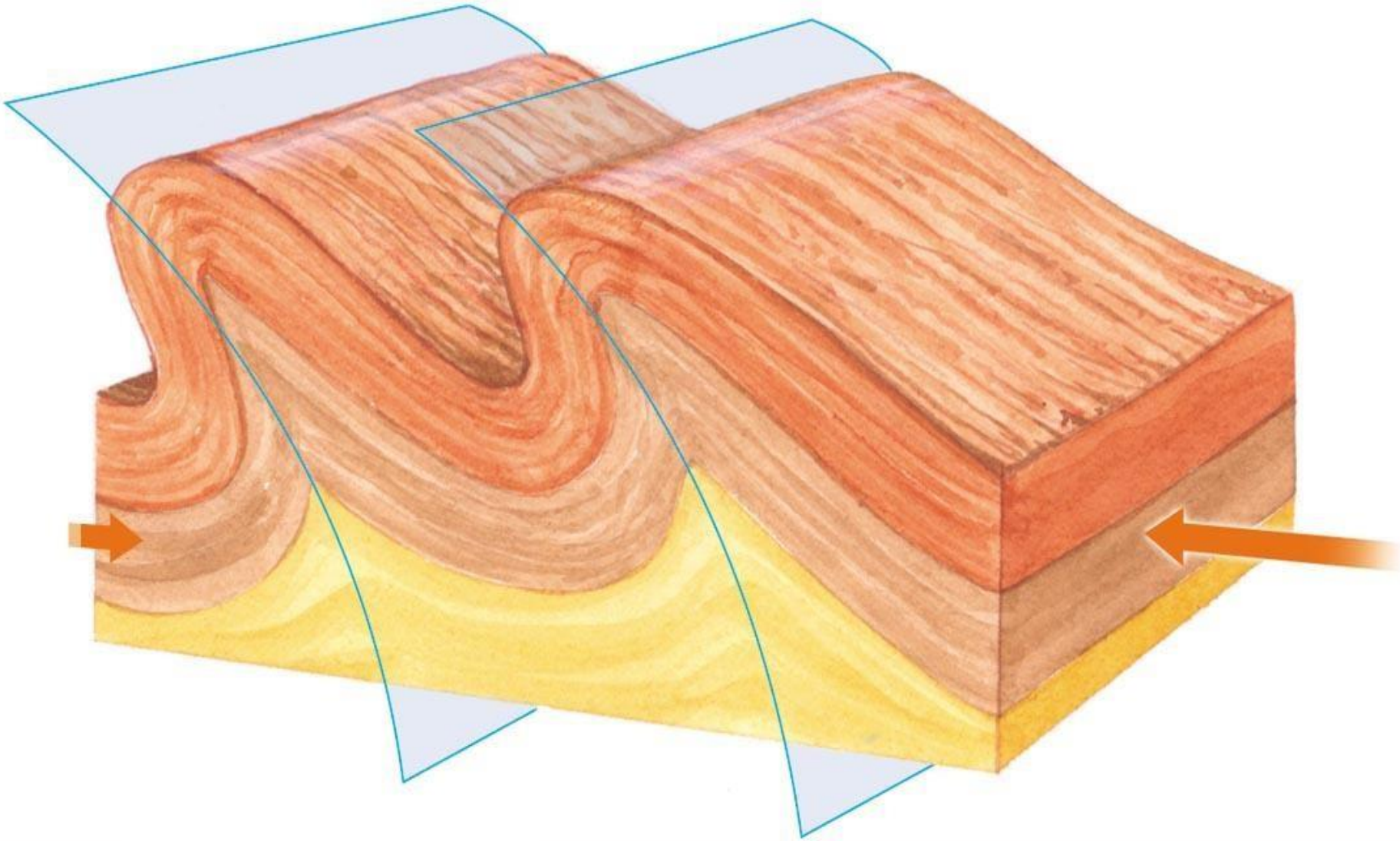
RECTO



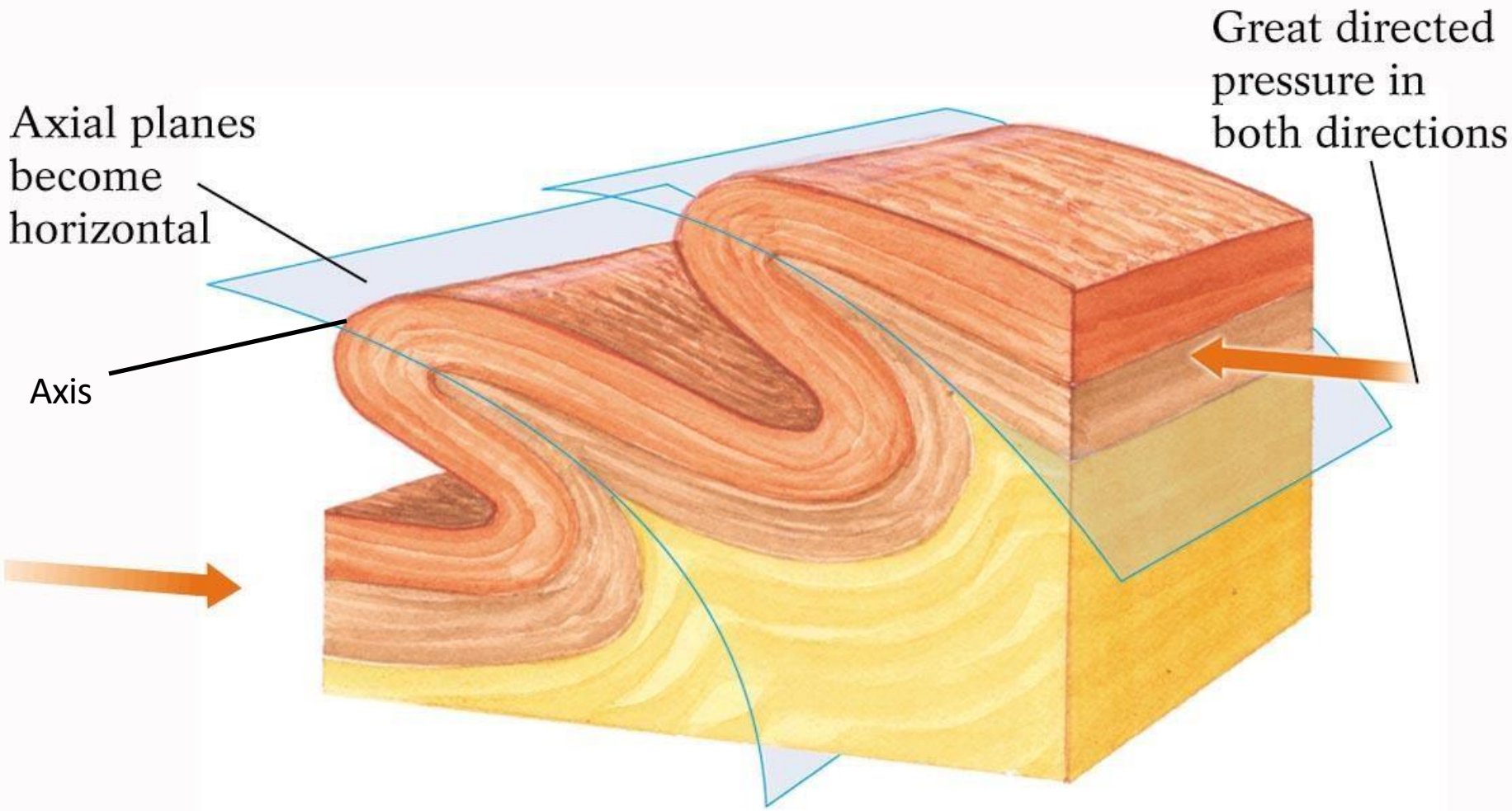
INCLINADO



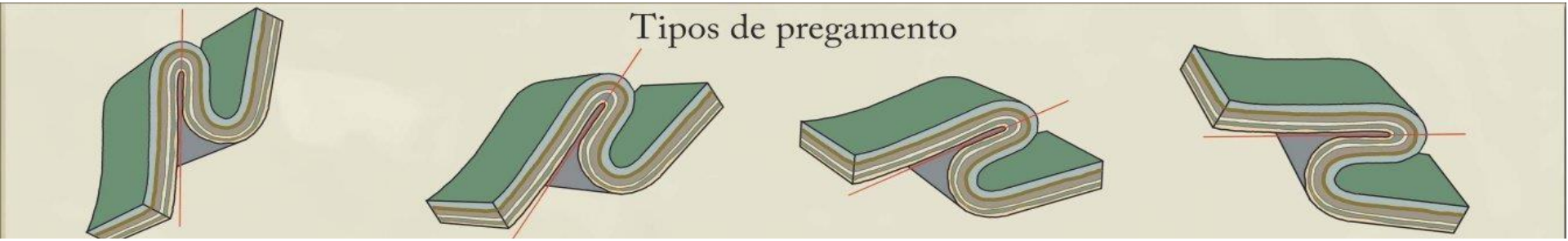
ENVORCADO



TUMBADO


Great directed pressure in both directions
Axial planes become horizontal
Axis

EXERCICIO 1

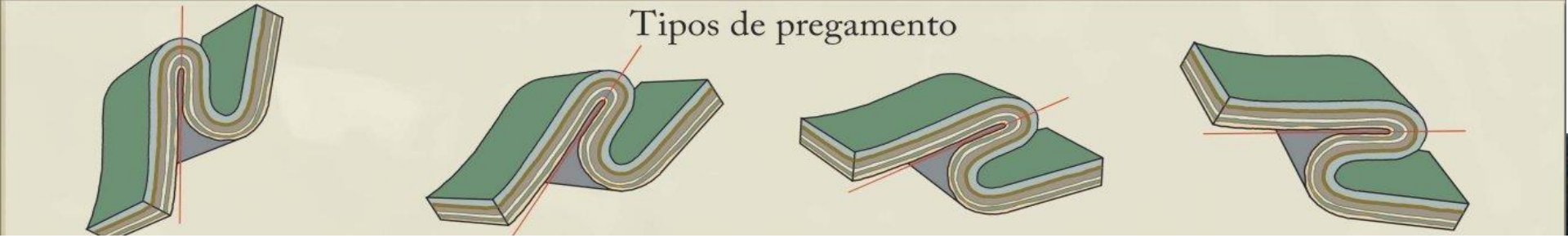


RECTO

INCLINADO

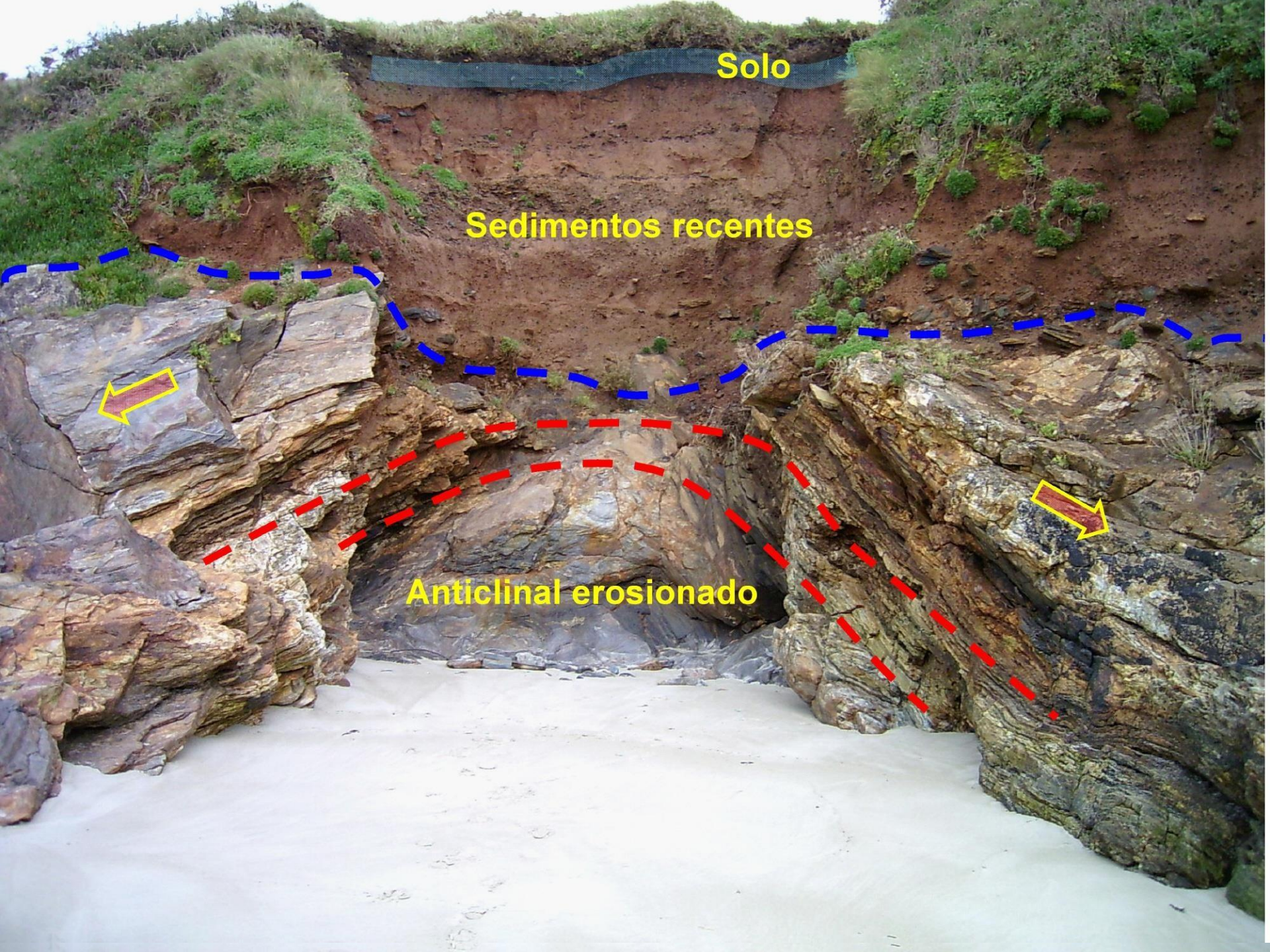
ENVORCADO

TUMBADO



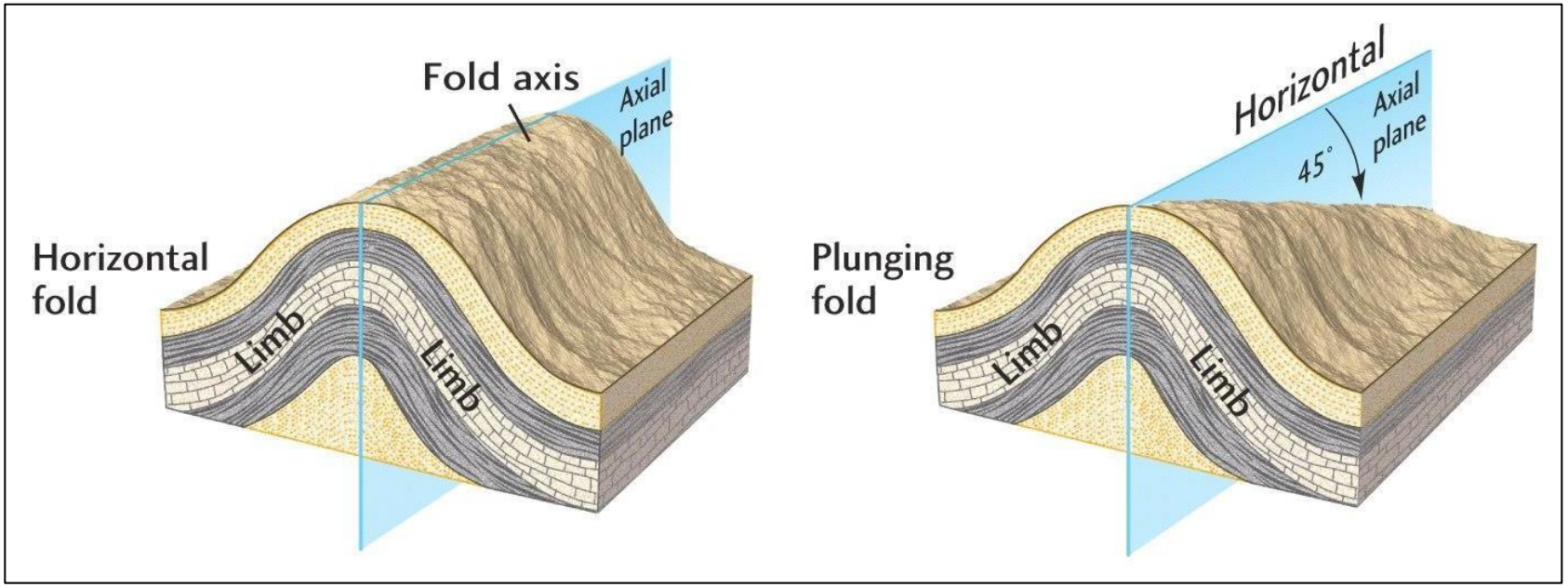
RECTO INCLINADO ENVORCADO TUMBADO

Prego tumbado de O courel (Lugo)


Solo
Sedimentos recentes
Anticlinal erosionado

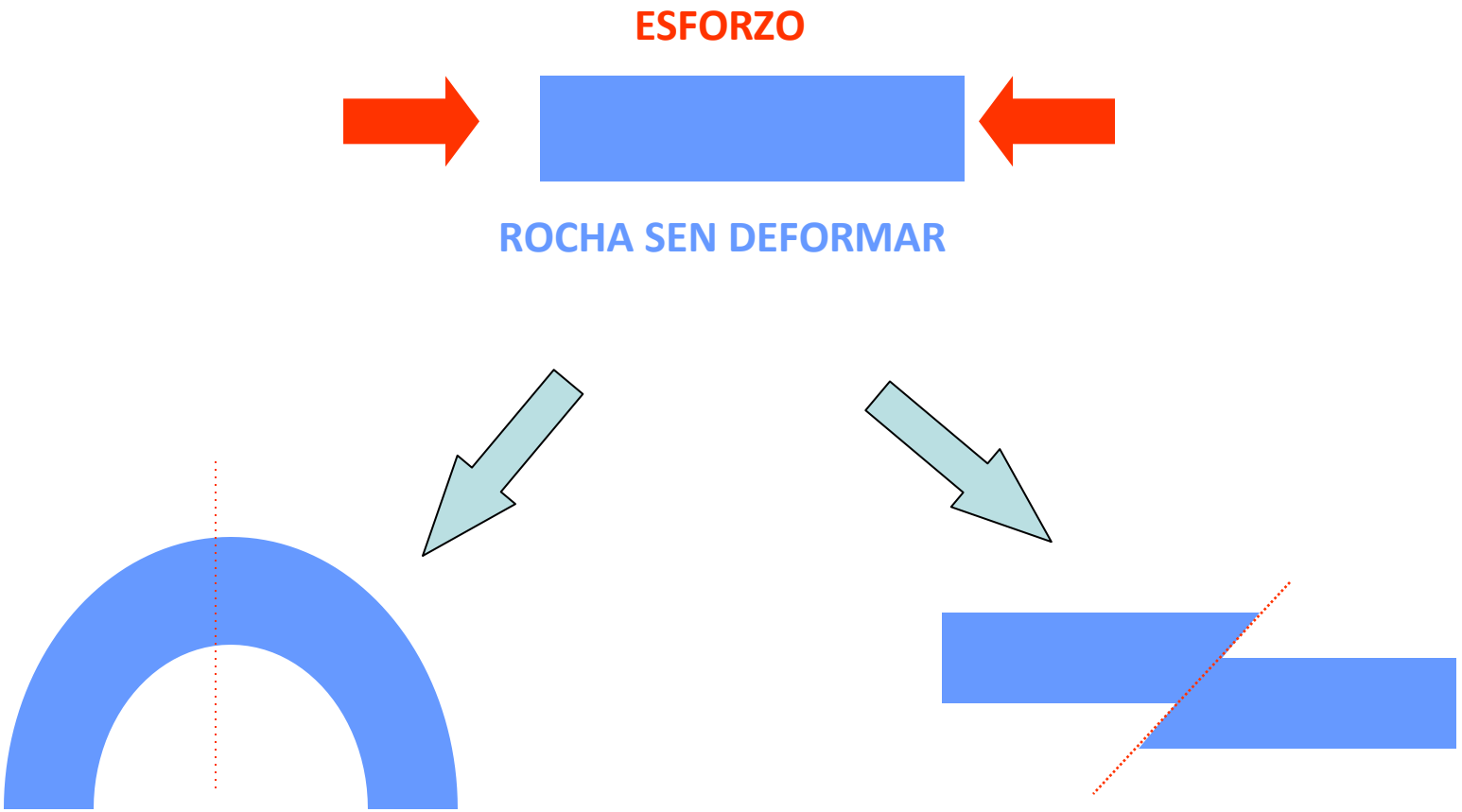
AMPLIACIÓN: PREGOS CON INMERSIÓN

En ocasións o eixo dun prego pode estar inclinado con respecto á horizontal e se di que presenta inmersión. Ao ángulo de inclinación con respecto á horizontal se lle chama **ángulo de inmersión.**



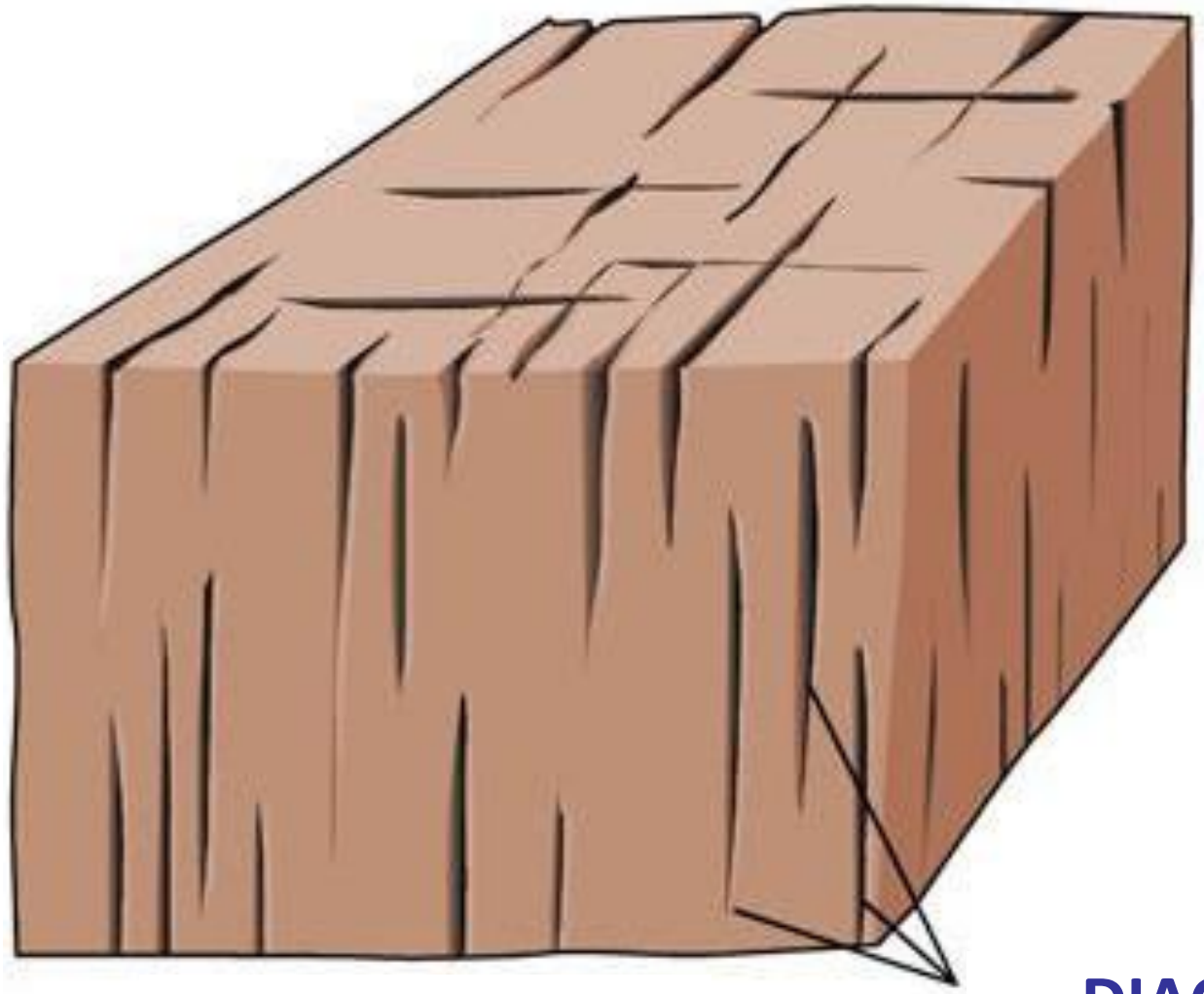
DEBUXO ESQUEMÁTICO CLASIFICACIÓN

ESTRUCTURAS DE DEFORMACIÓN



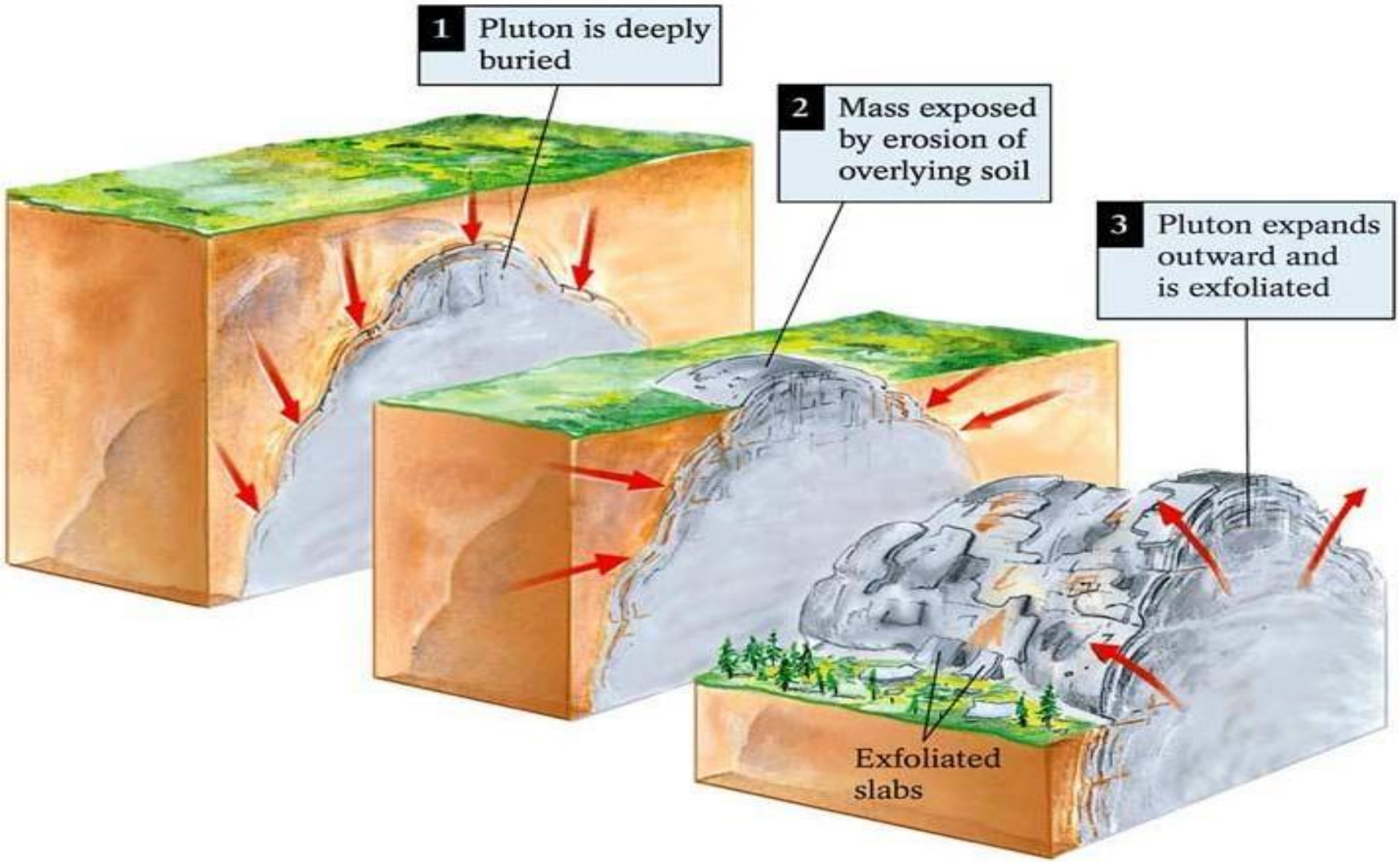
FRACTURAS

- **DIACLASAS: SEN DESPLAZAMENTO**
- **FALLAS: CON DESPLAZAMENTO**

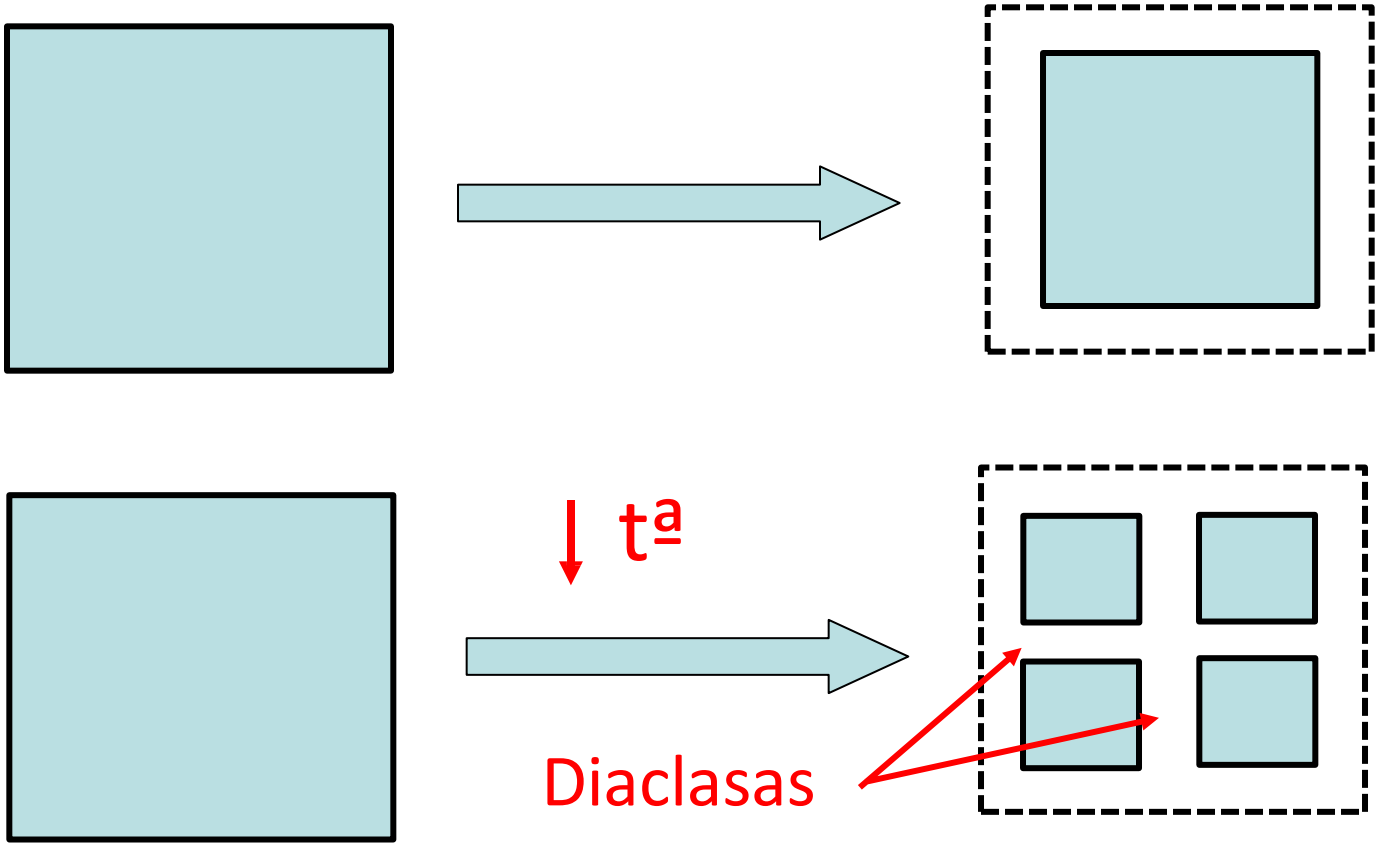


DIACLASAS

DIACLASAS DE DESCOMPRESIÓN

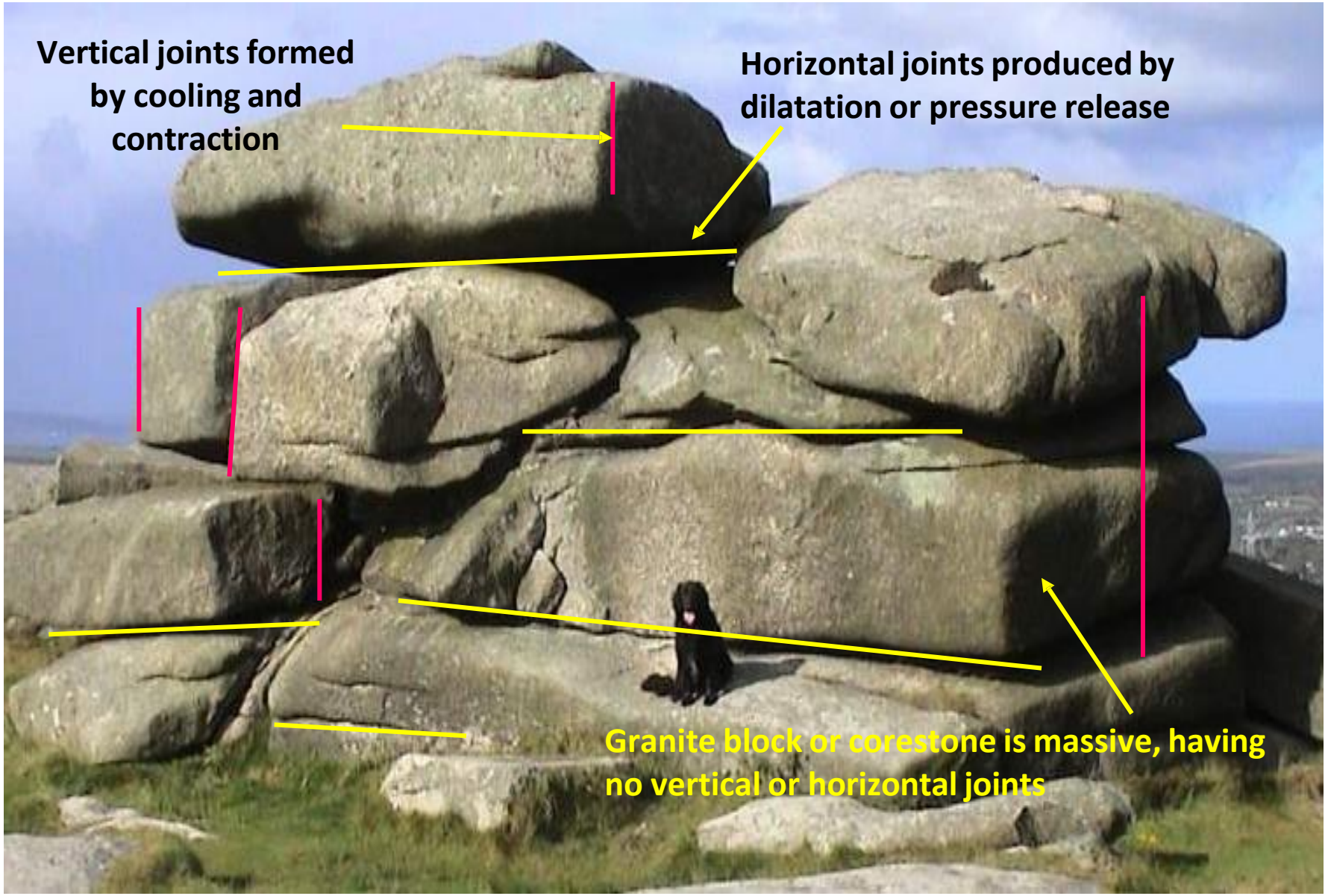


DIACLASAS DE ARREFRIAMENTO

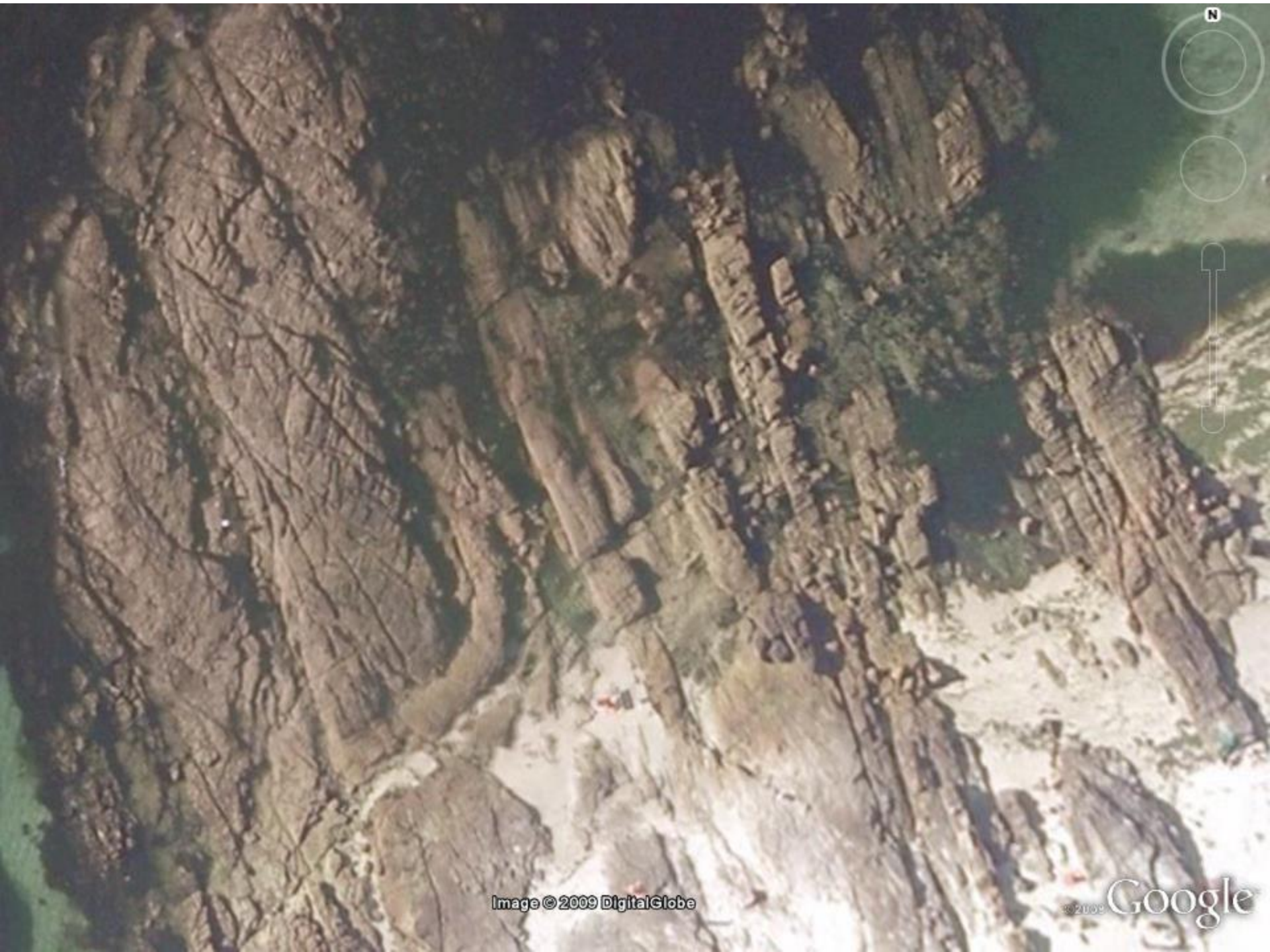


DIXUNCIÓN COLUMNAR

Granite Tors – Carn Brea



Praia das Barcas en Coruxo


N
Image © 2009 DigitalGlobe
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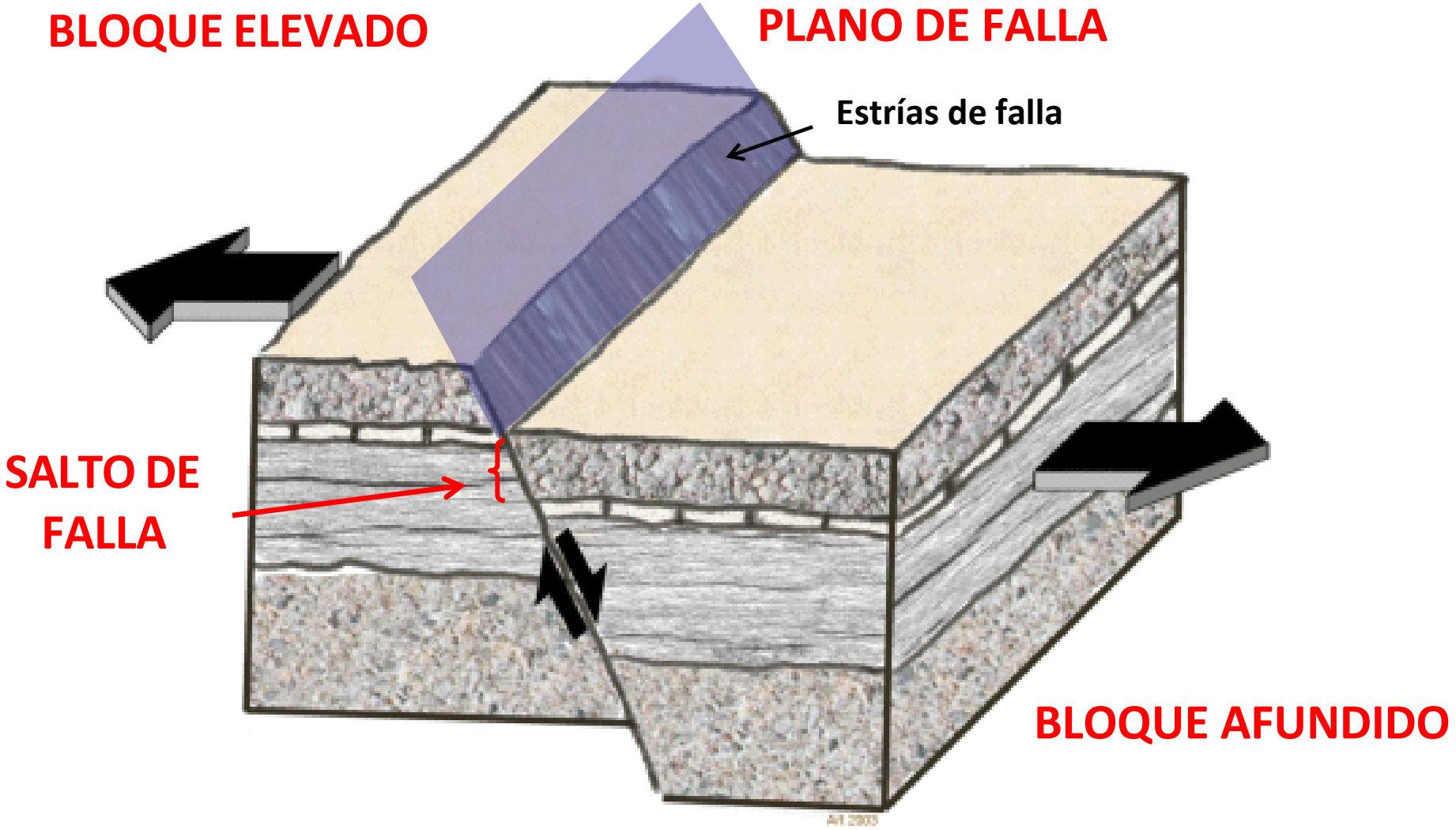
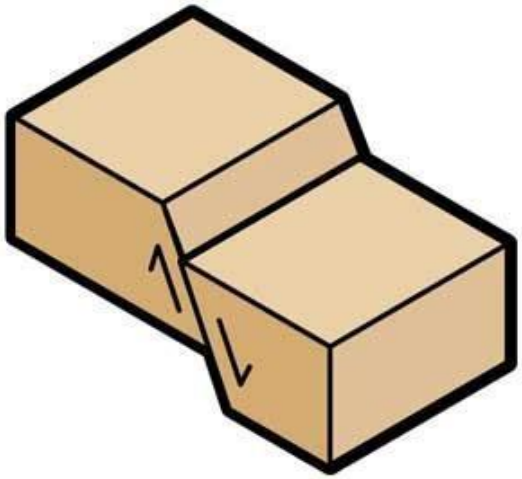
FALLAS


BLOQUE ELEVADO
PLANO DE FALLA
Estrías de falla
SALTO DE FALLA
BLOQUE AFUNDIDO

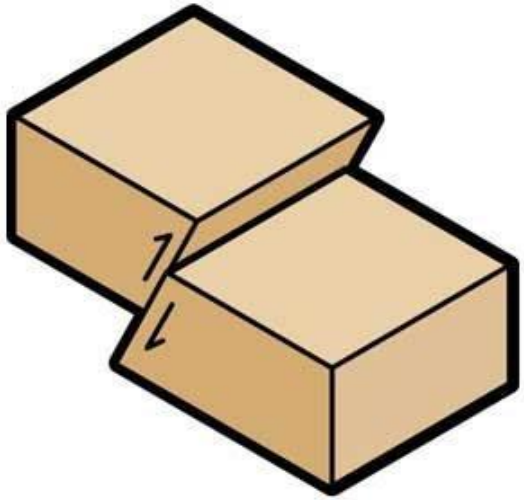
FALLA

TIPOS DE FALLAS

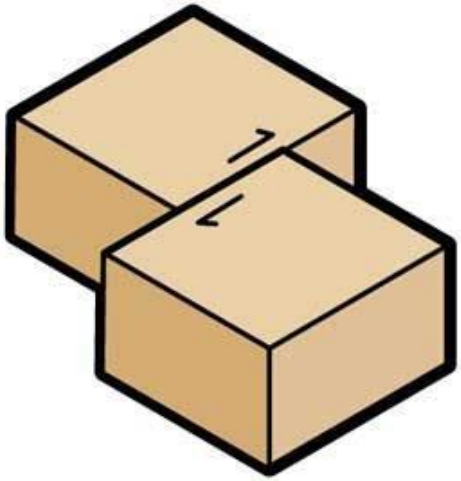
Normal fault



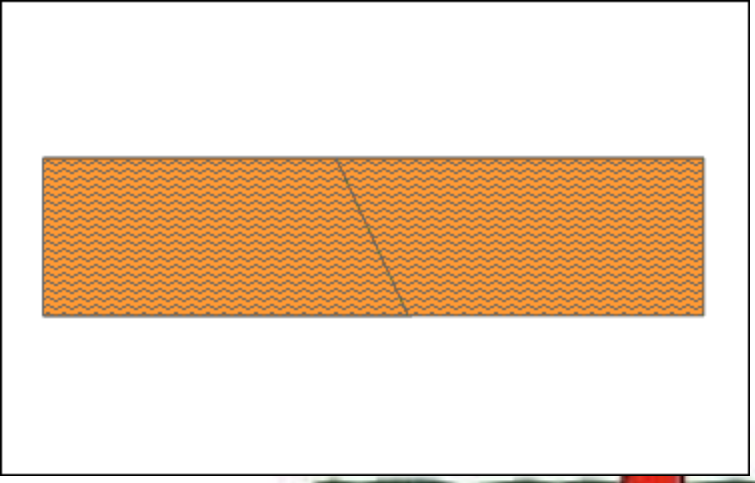
Reverse fault

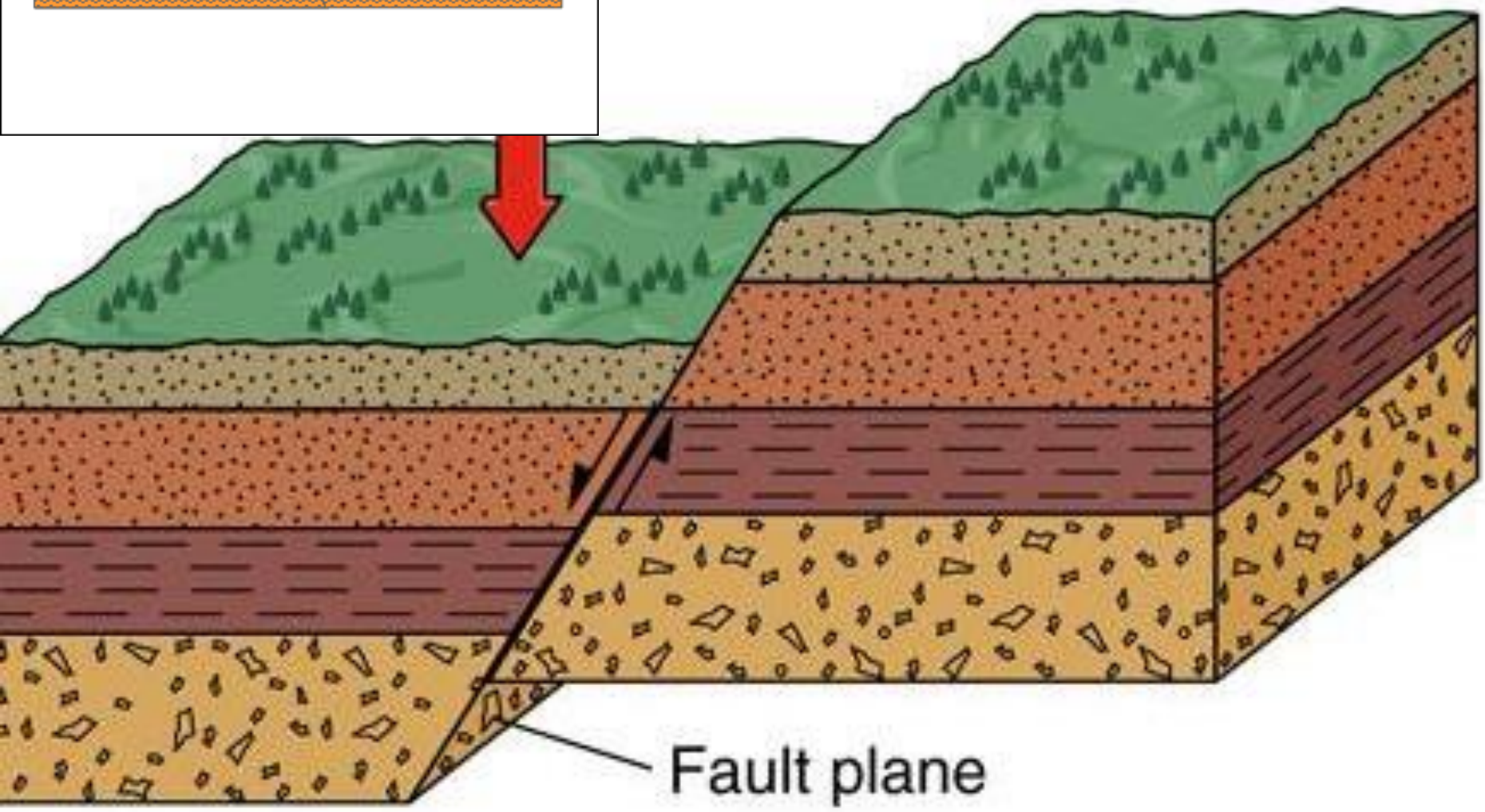


Strike-slip fault

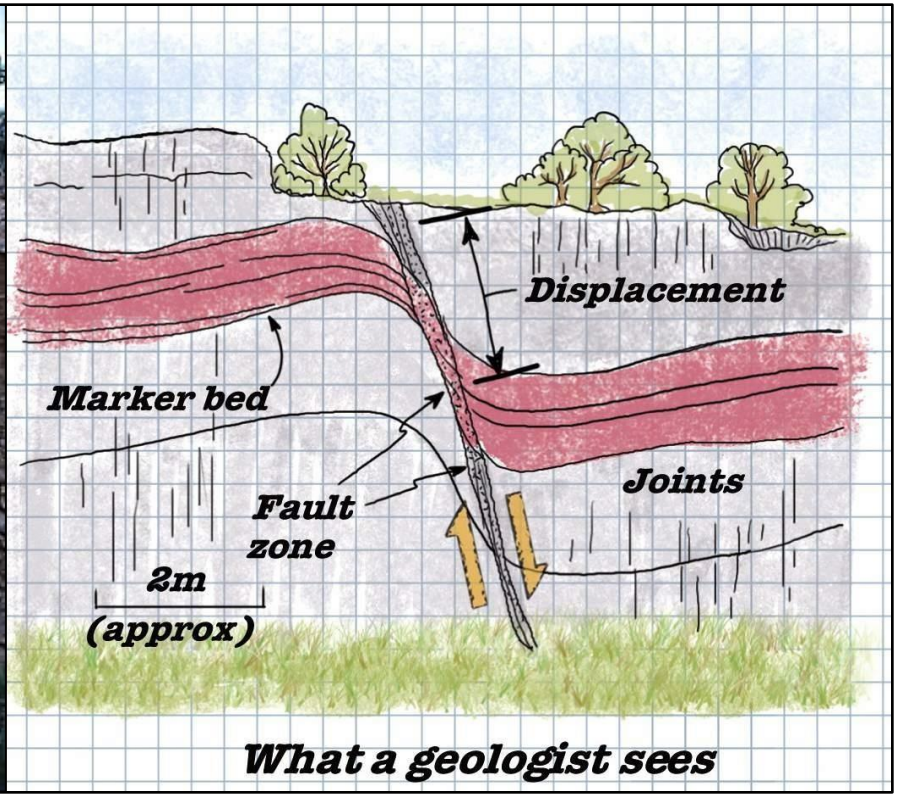


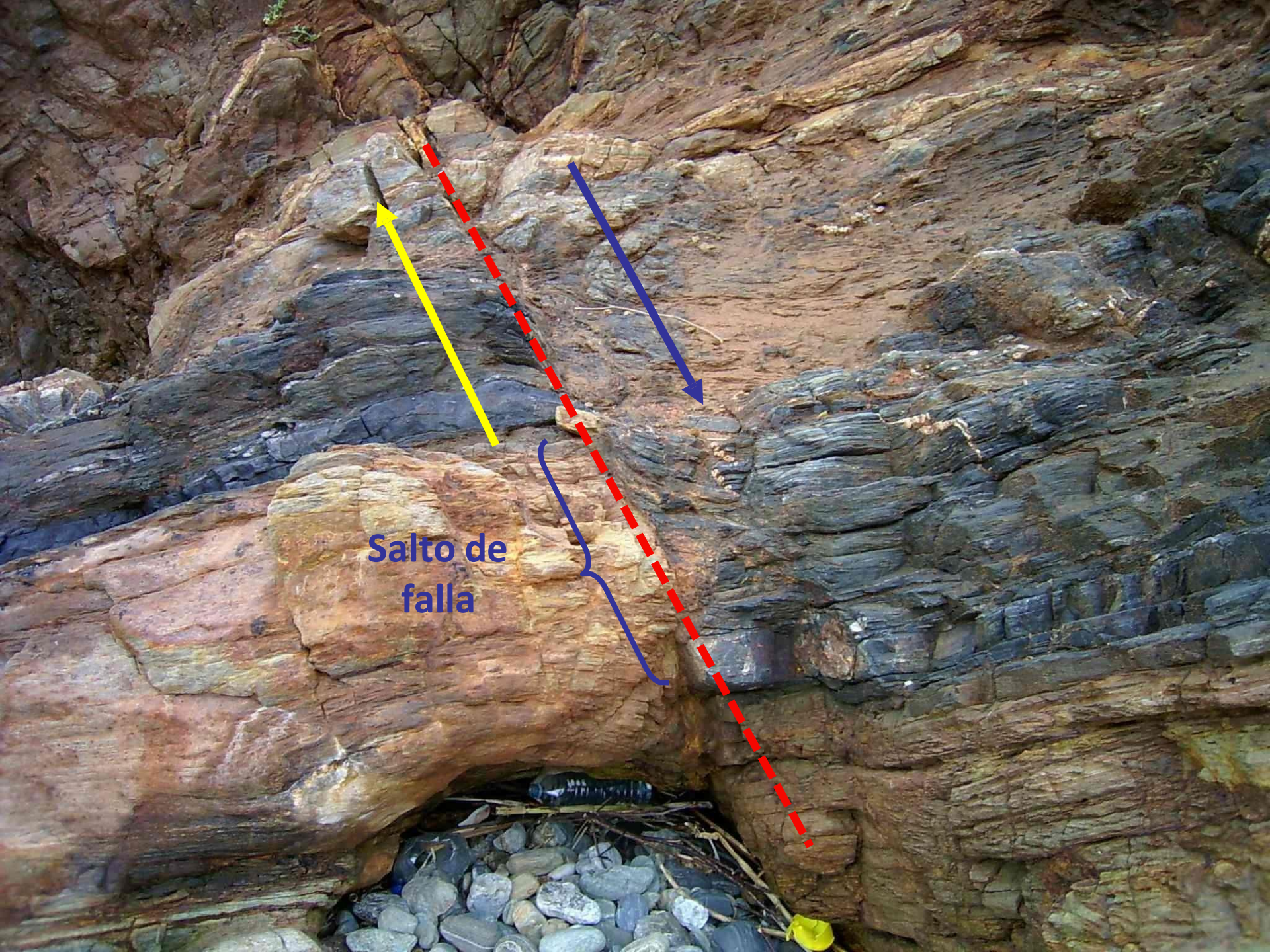
Falla normal



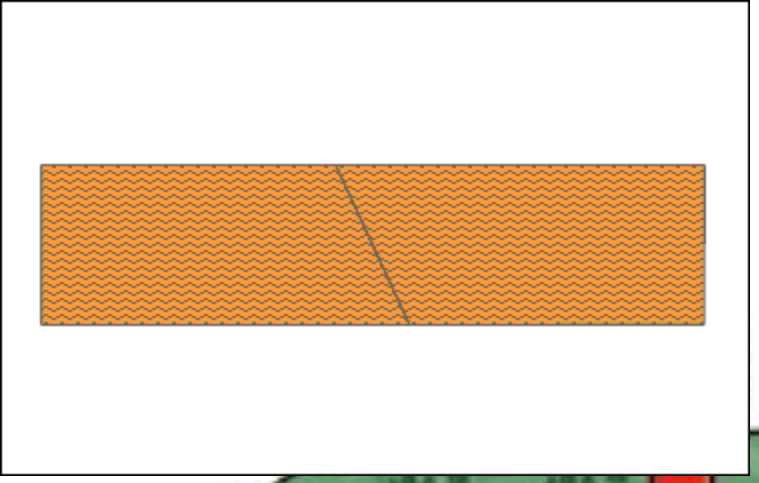


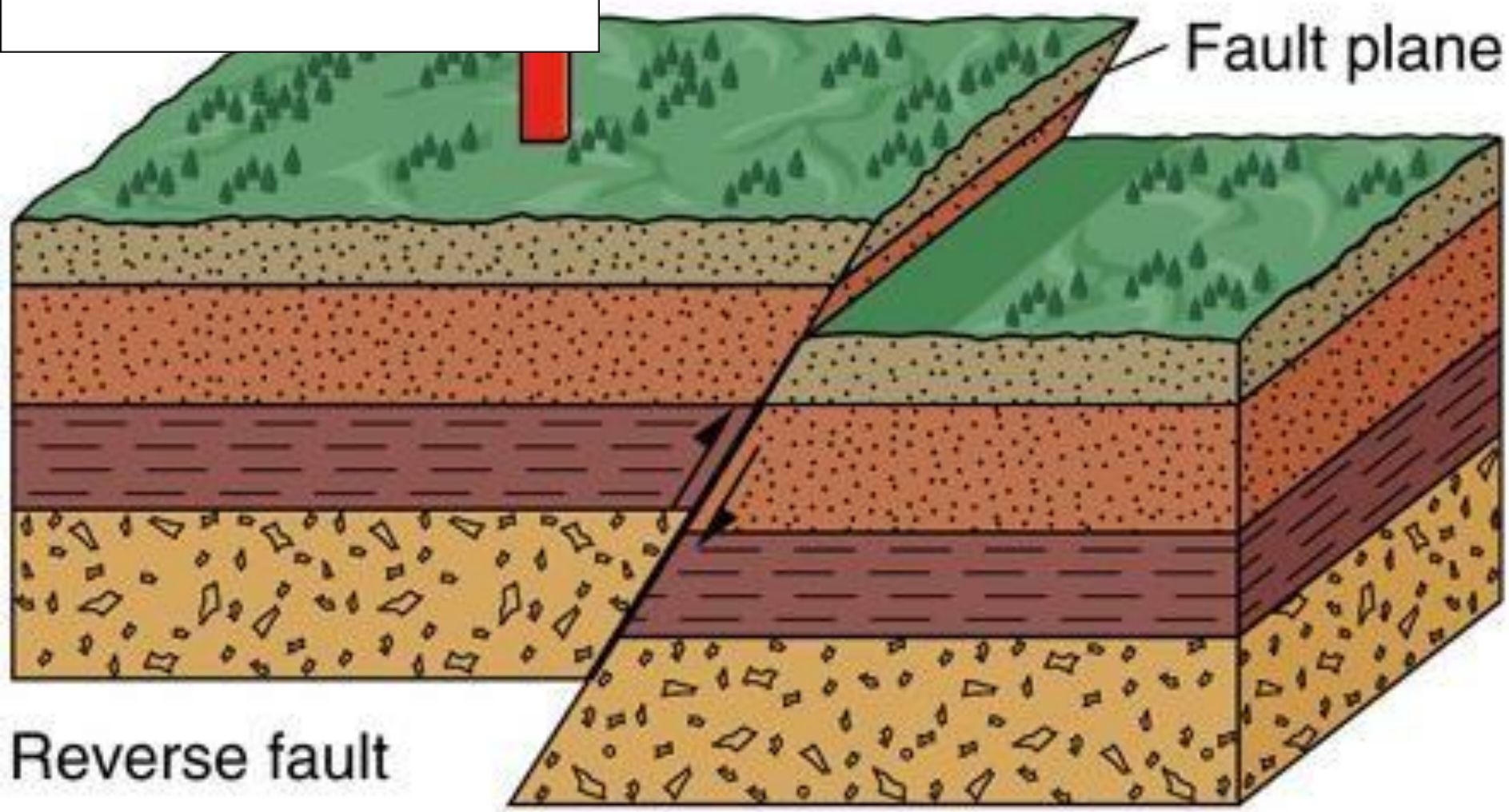
Normal Fault

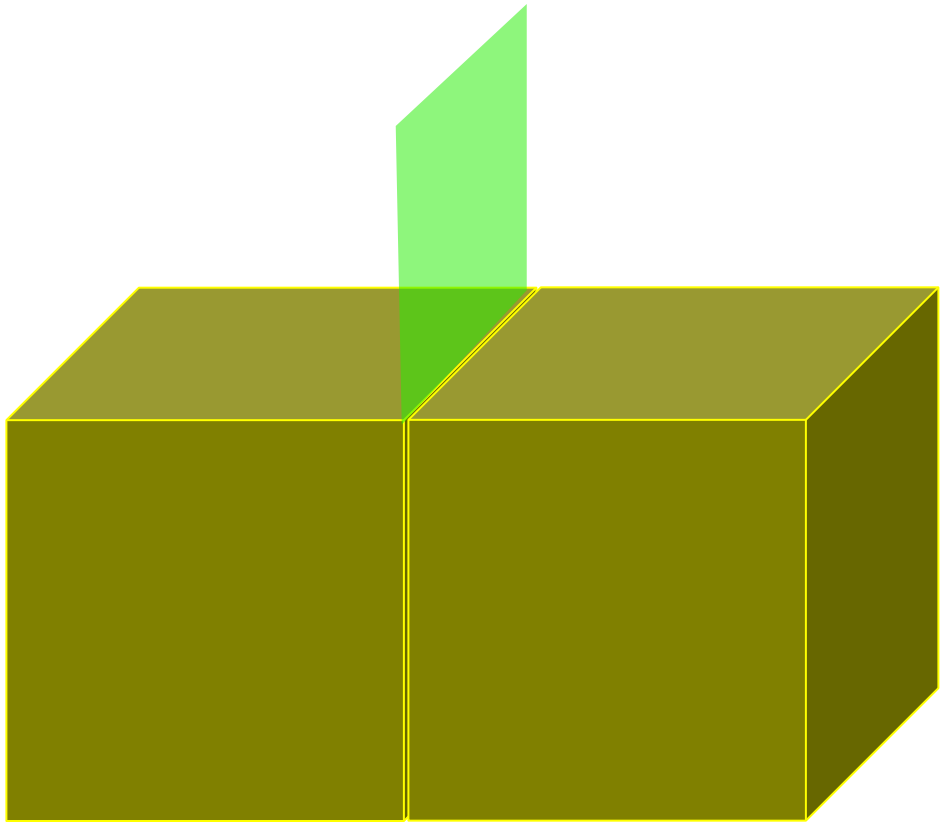



Salto de
falla

Falla inversa

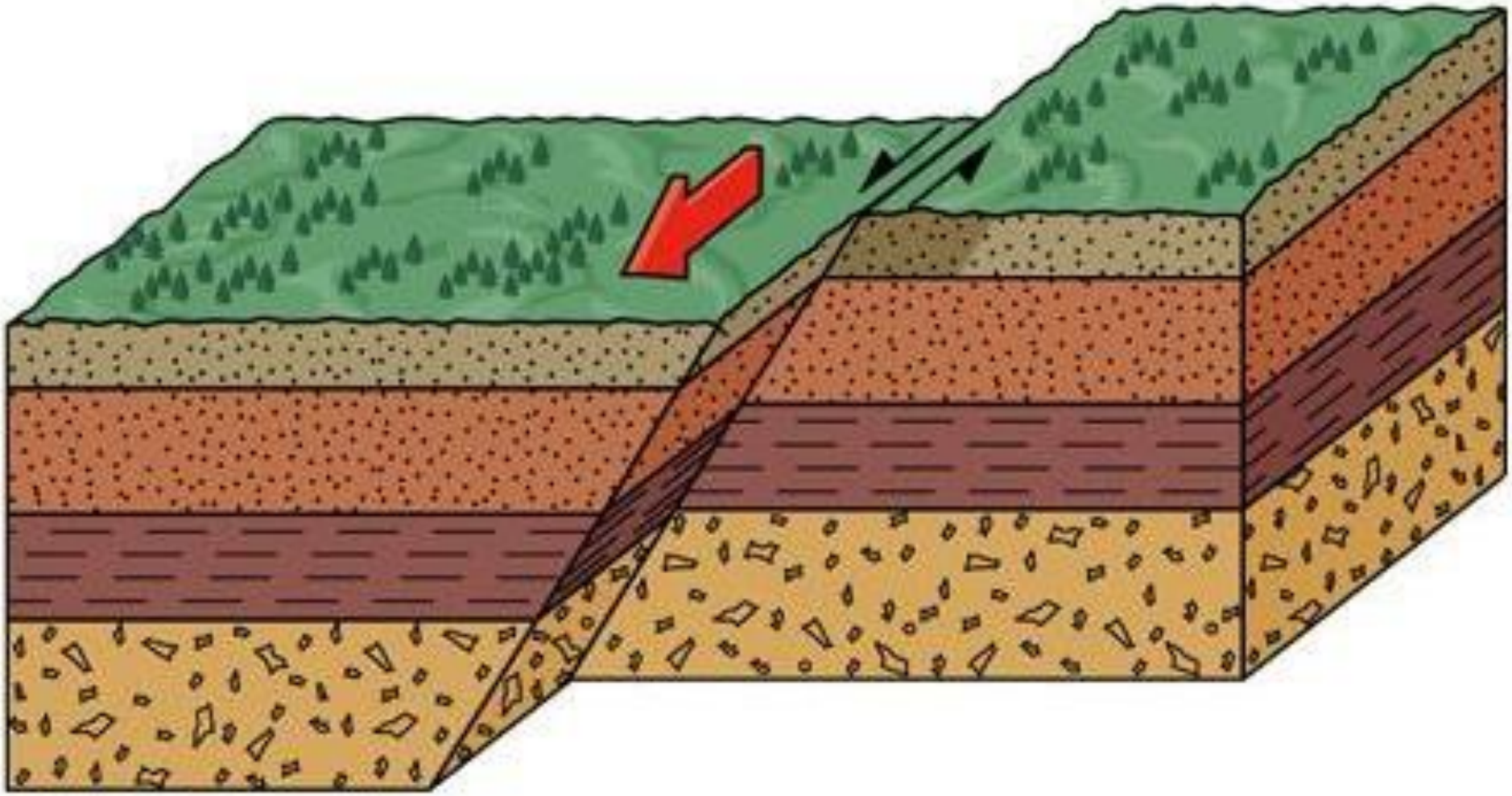






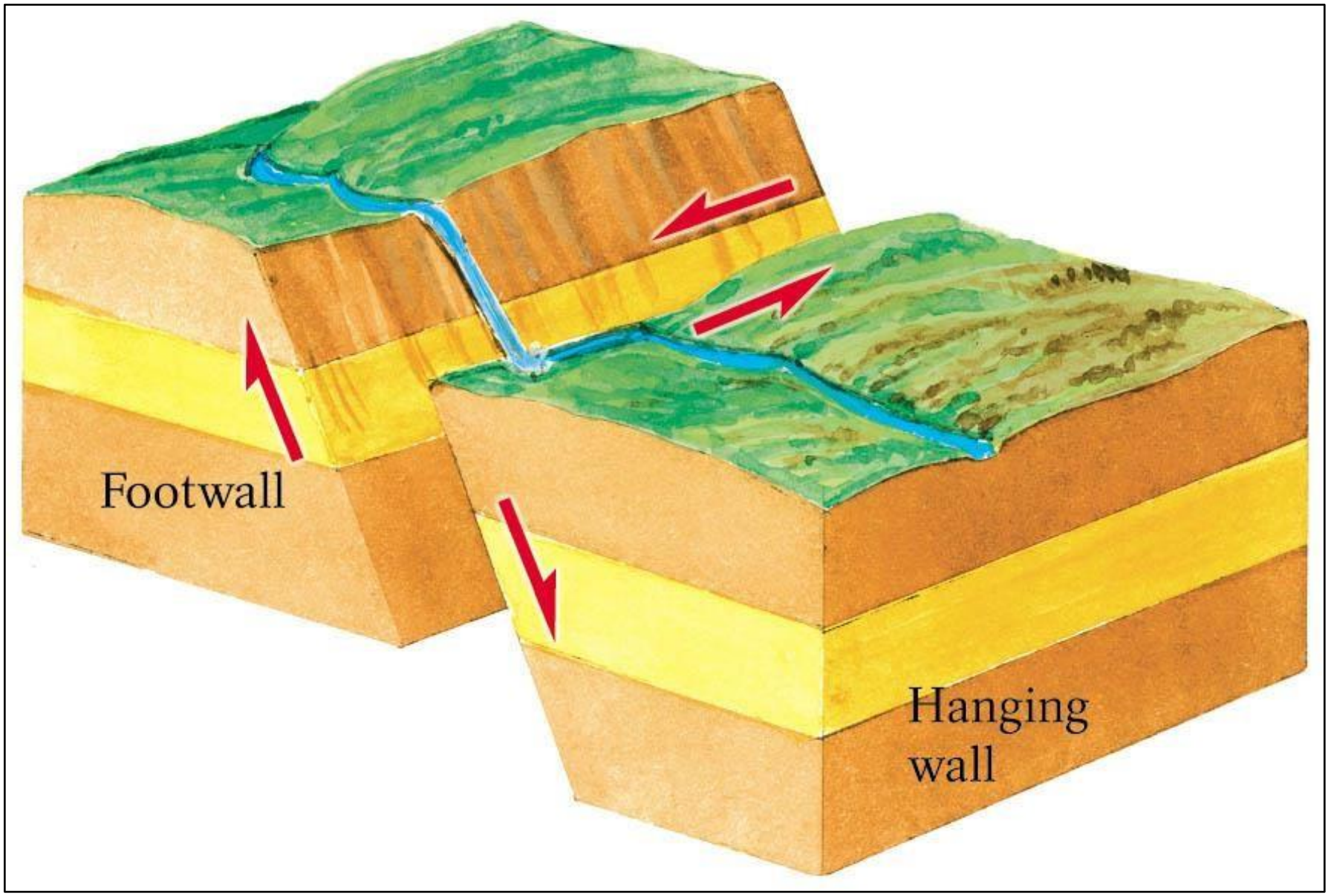
Falla vertical

Falla de esgazamento

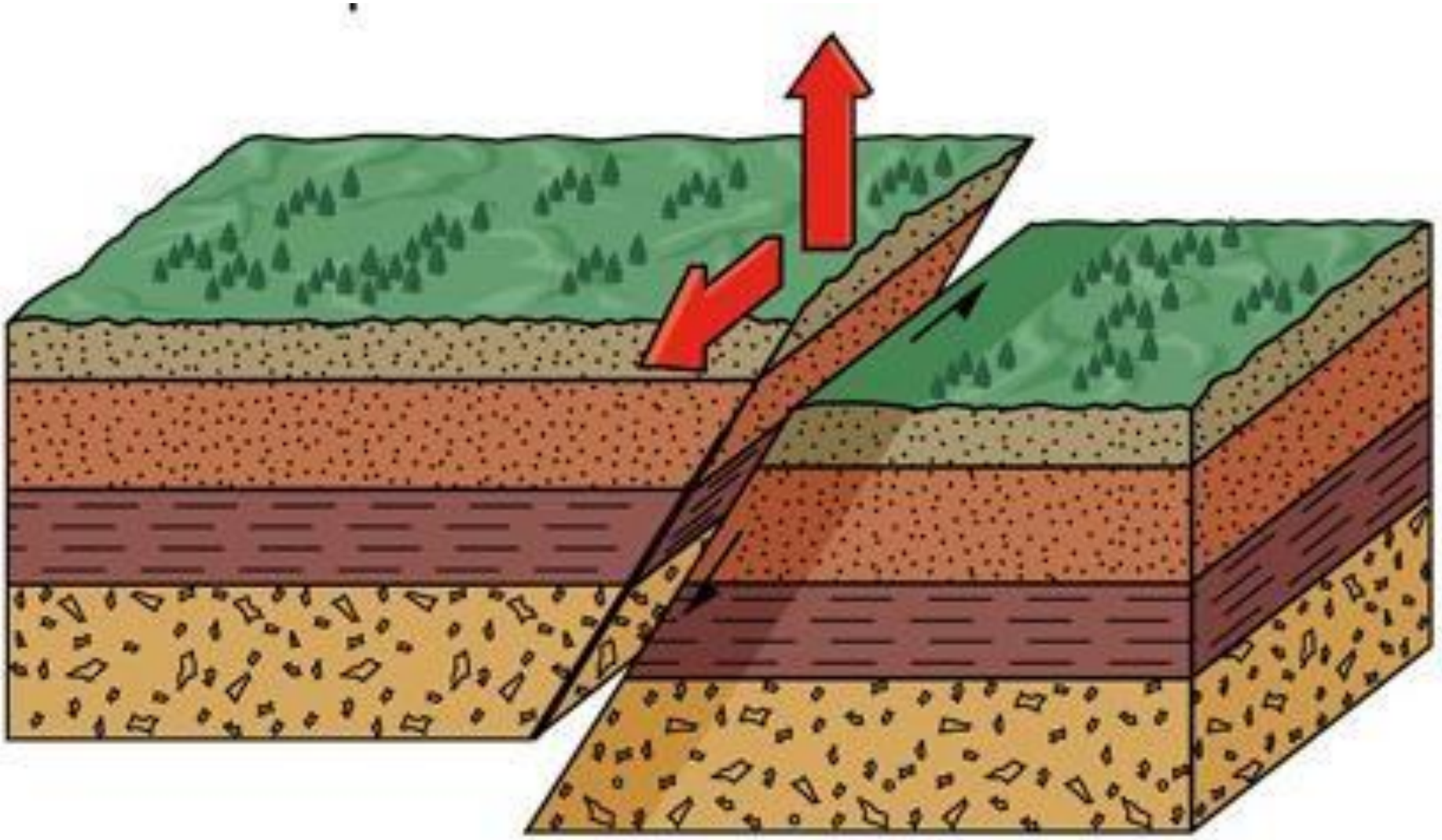


FALLAS OBLICUAS

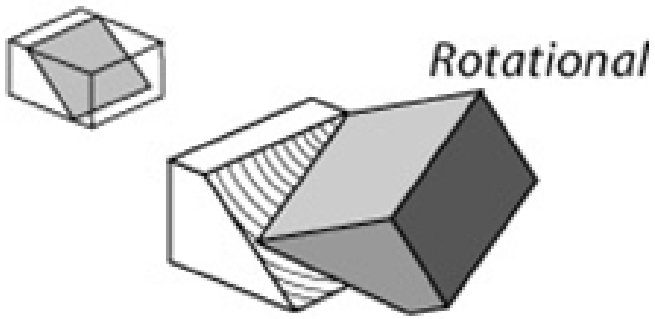
Falla normal esquerda

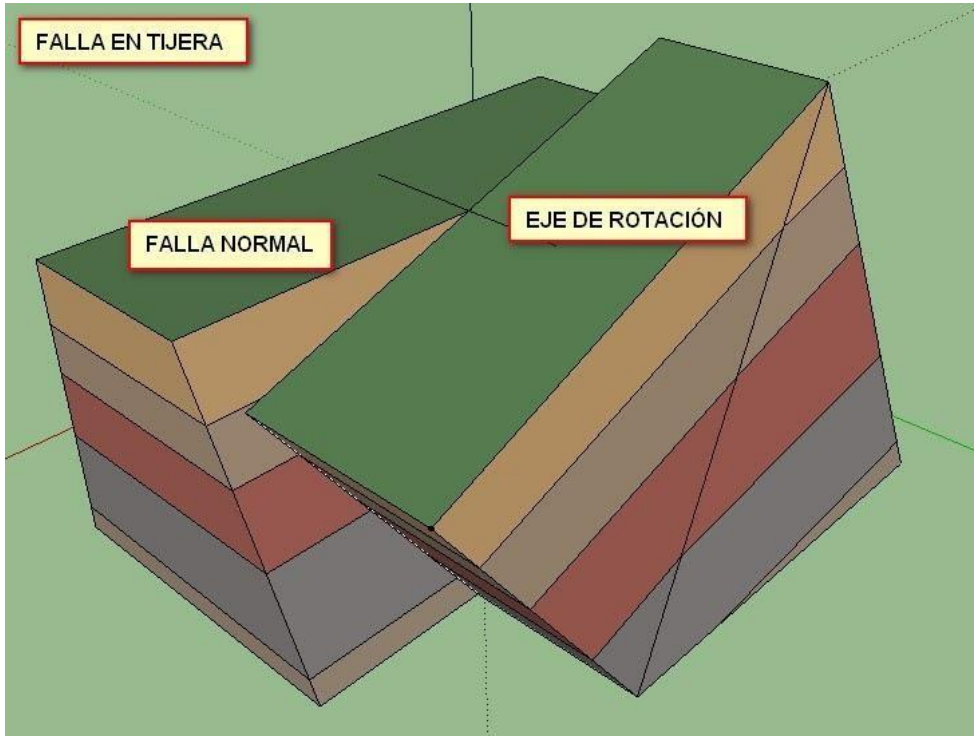


Falla inversa esquerda



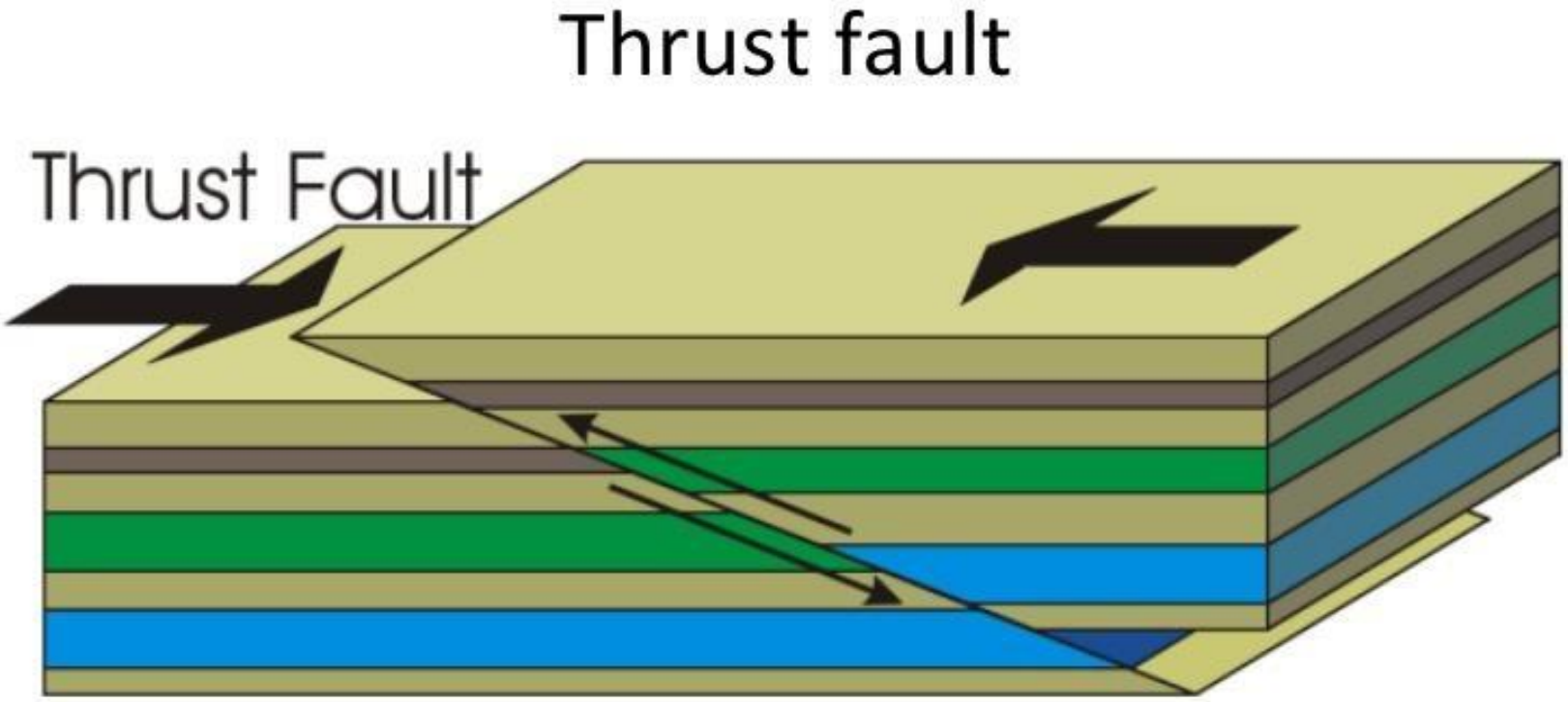
FALLA ROTACIONAL (EN TESOURA)





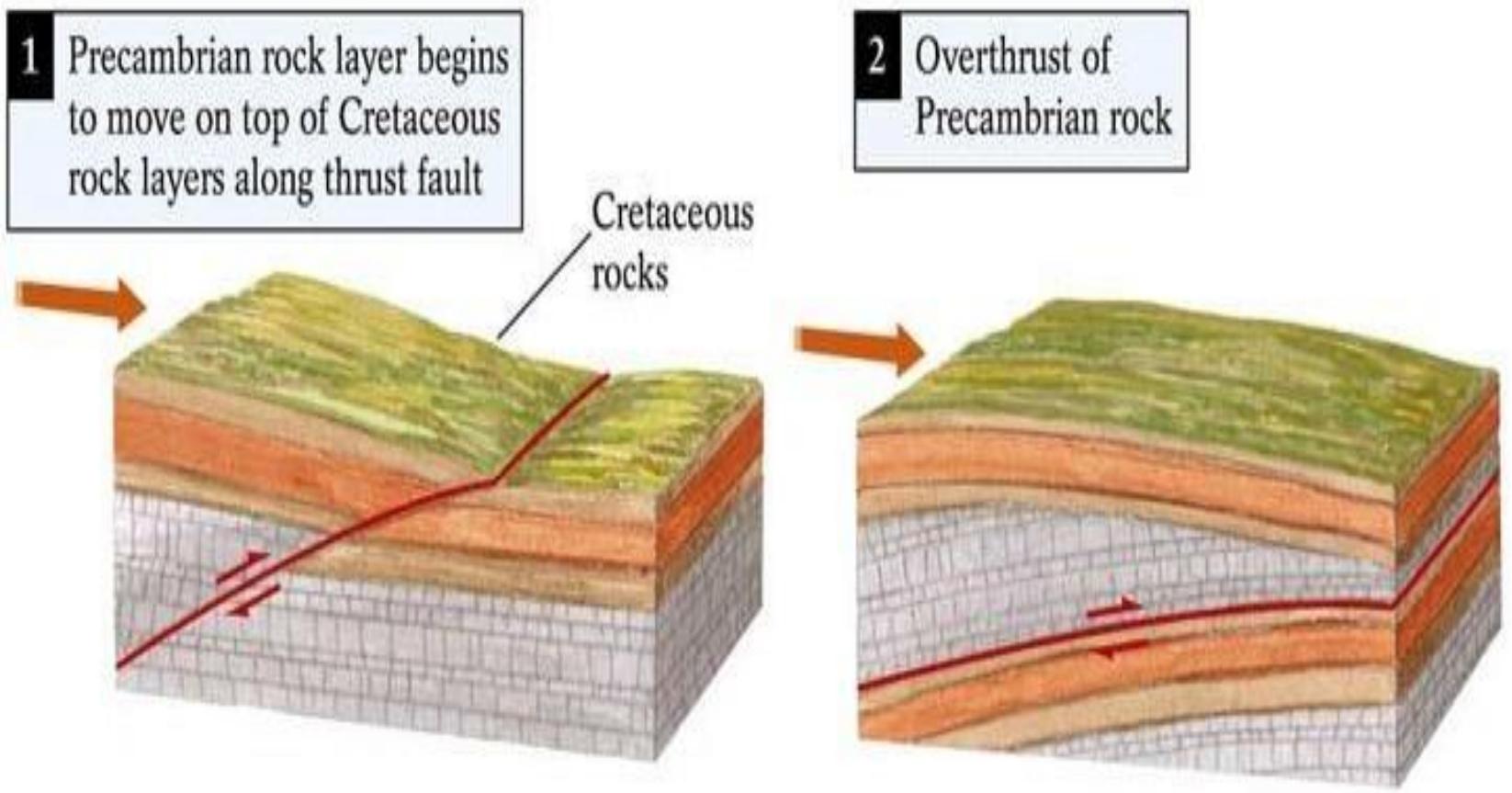
1988 Armenian Earthquake Fault Scarp

CABALGAMENTOS

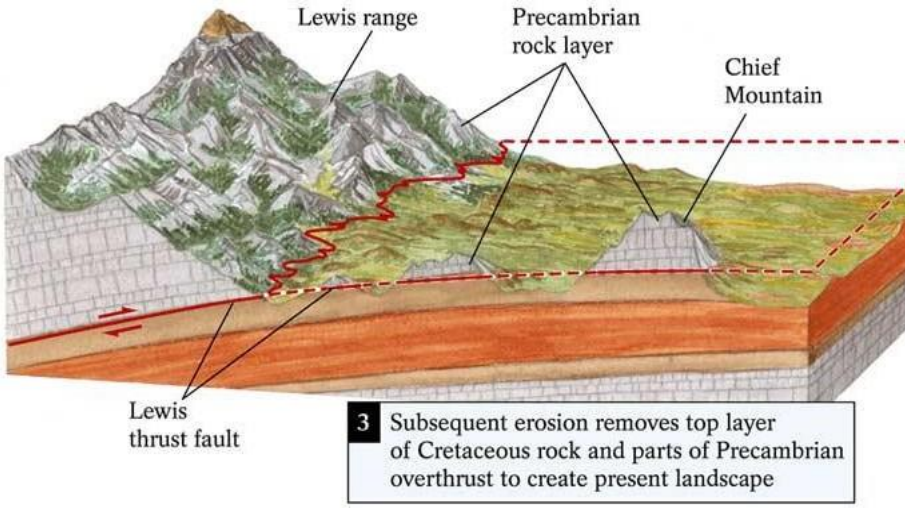


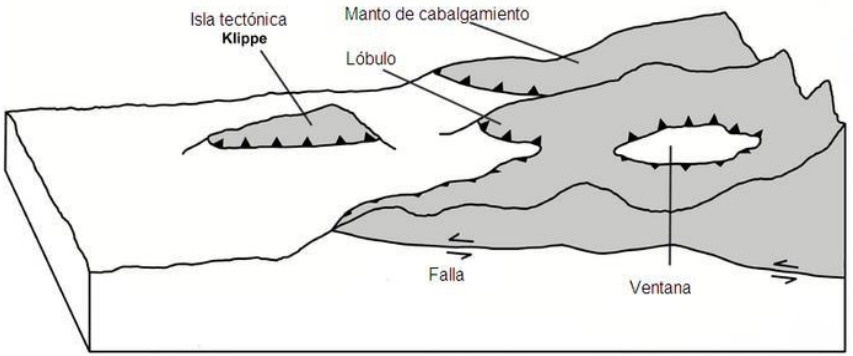
MANTOS DE CABALGAMENTO

AUTÓCTONO - ALÓCTONO



EXERCICIO PÁXINA 6

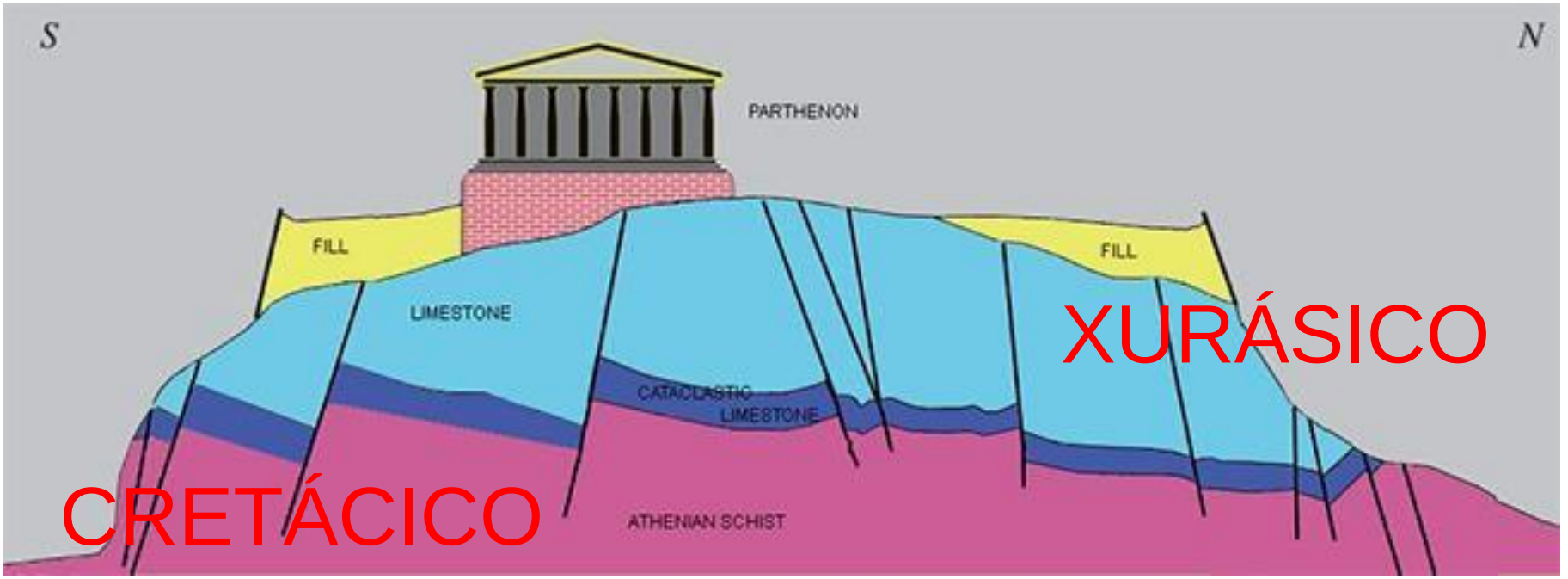


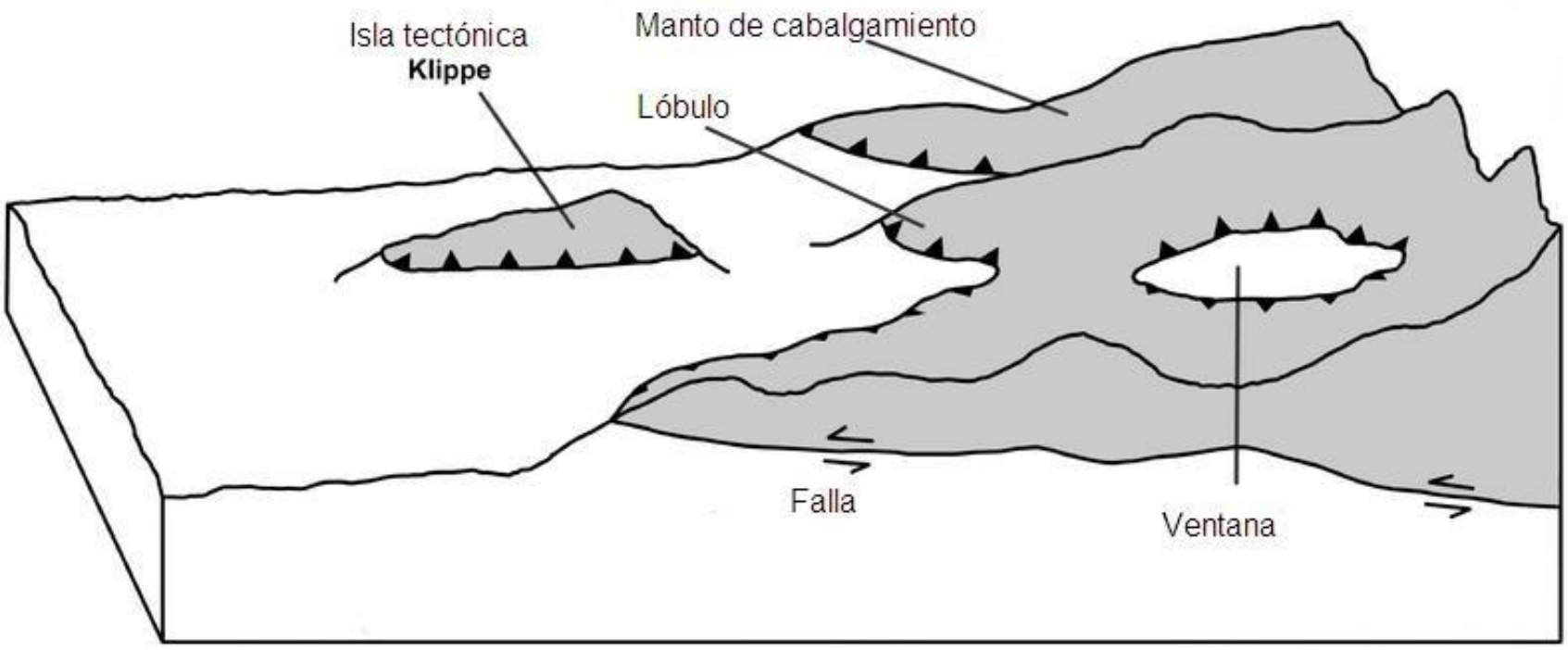


Explica a diferencia entre klippe e ventana tectónica e indica con cal se corresponde Chief Mountain

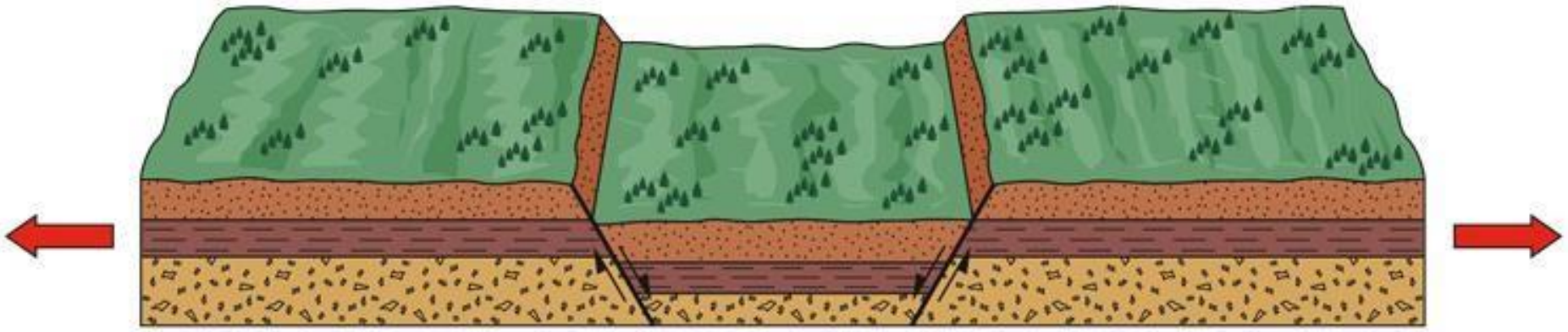

KLIPPE

XEOLOXÍA DA ACRÓPOLE

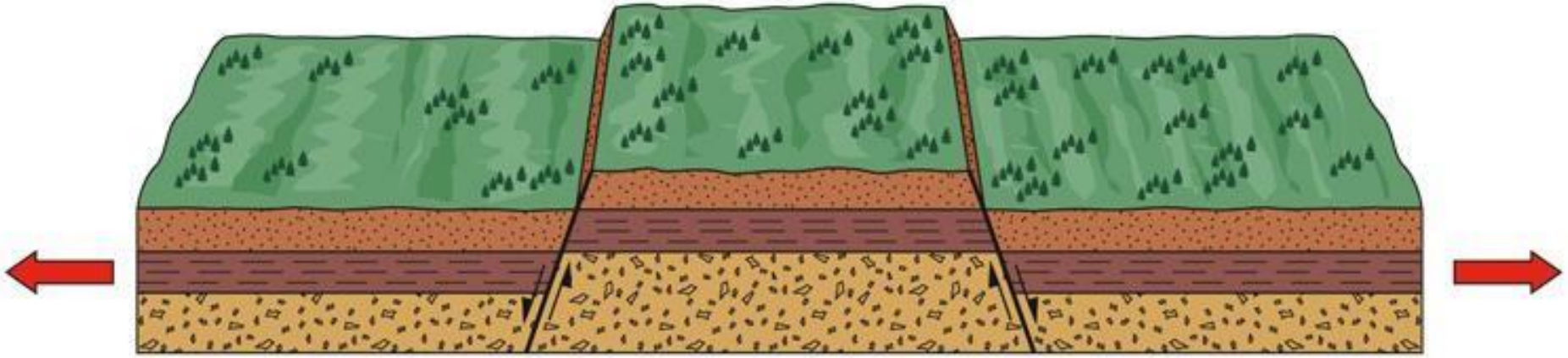



Isla tectónica
Klippe
Manto de cabalgamiento
Lóbulo
Falla
Ventana

ASOCIACIÓN DE FALLAS

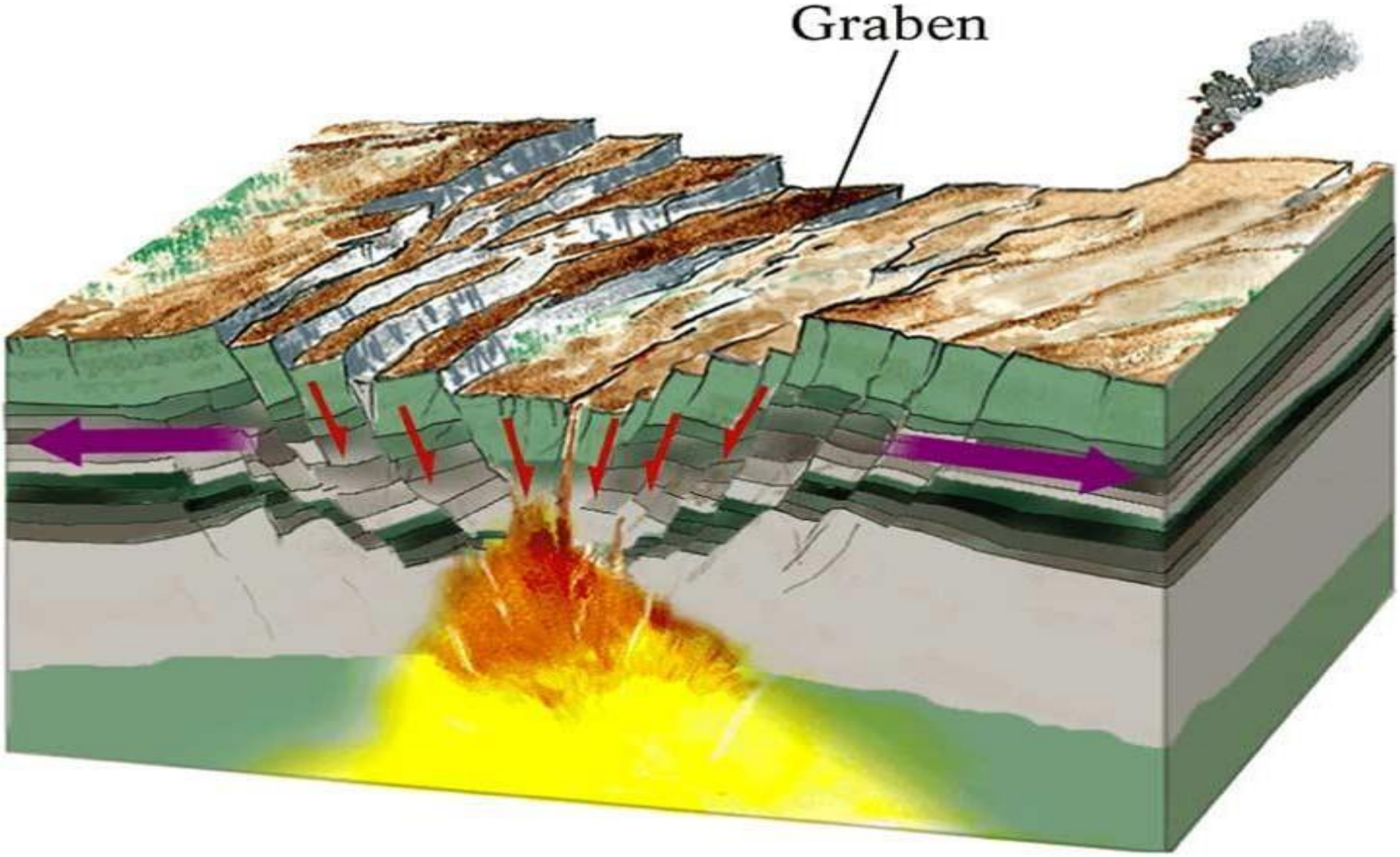


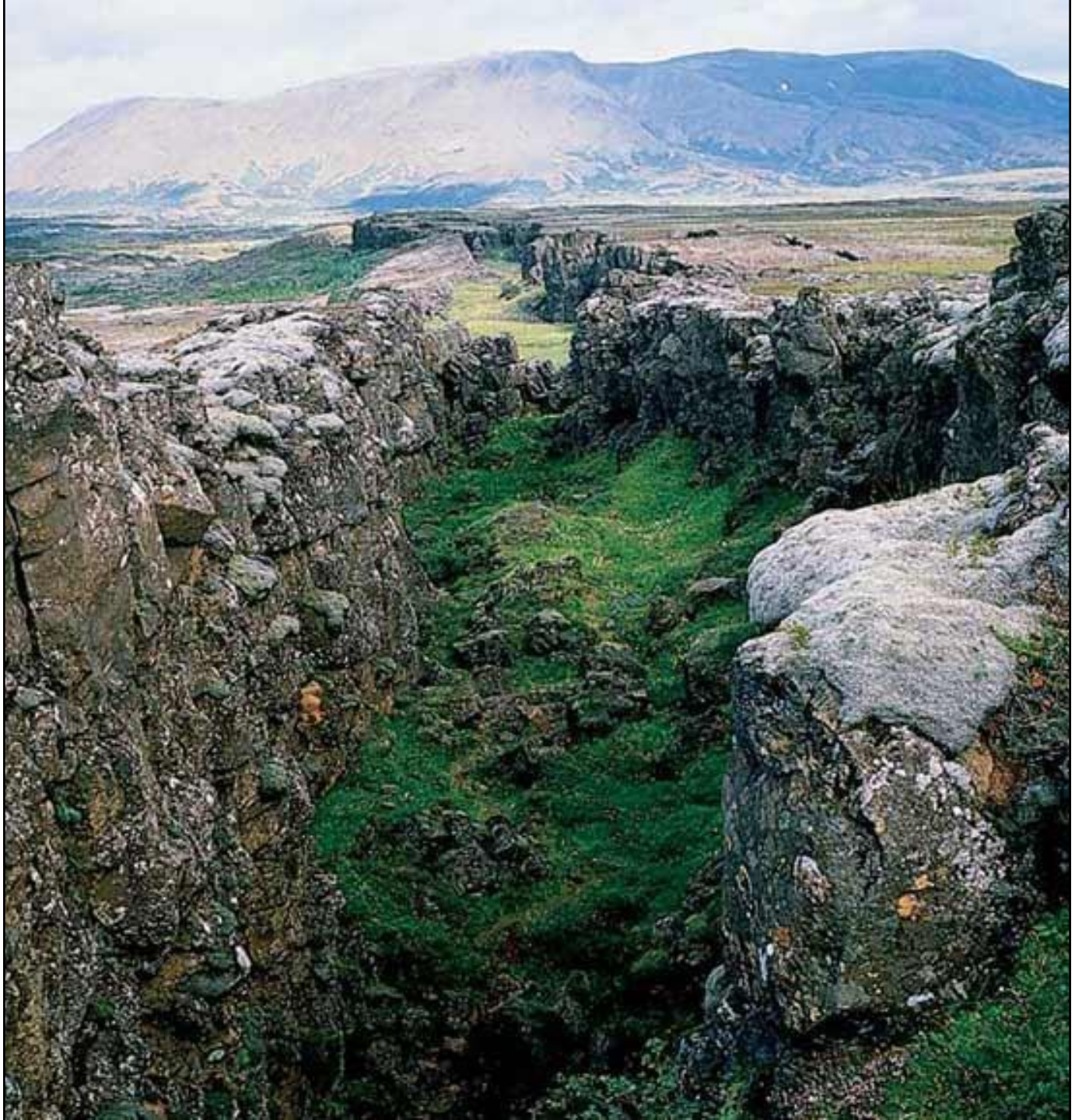
C Graben



D Horst

Rift continentais: GRABEN





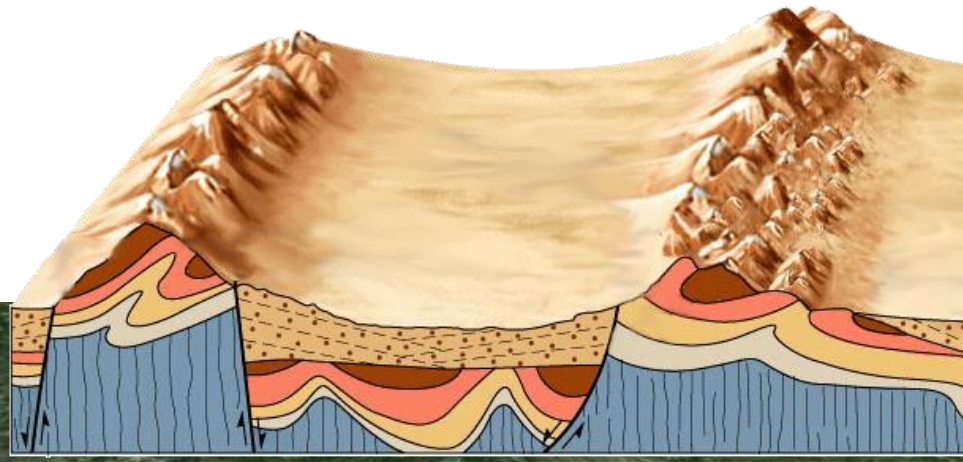
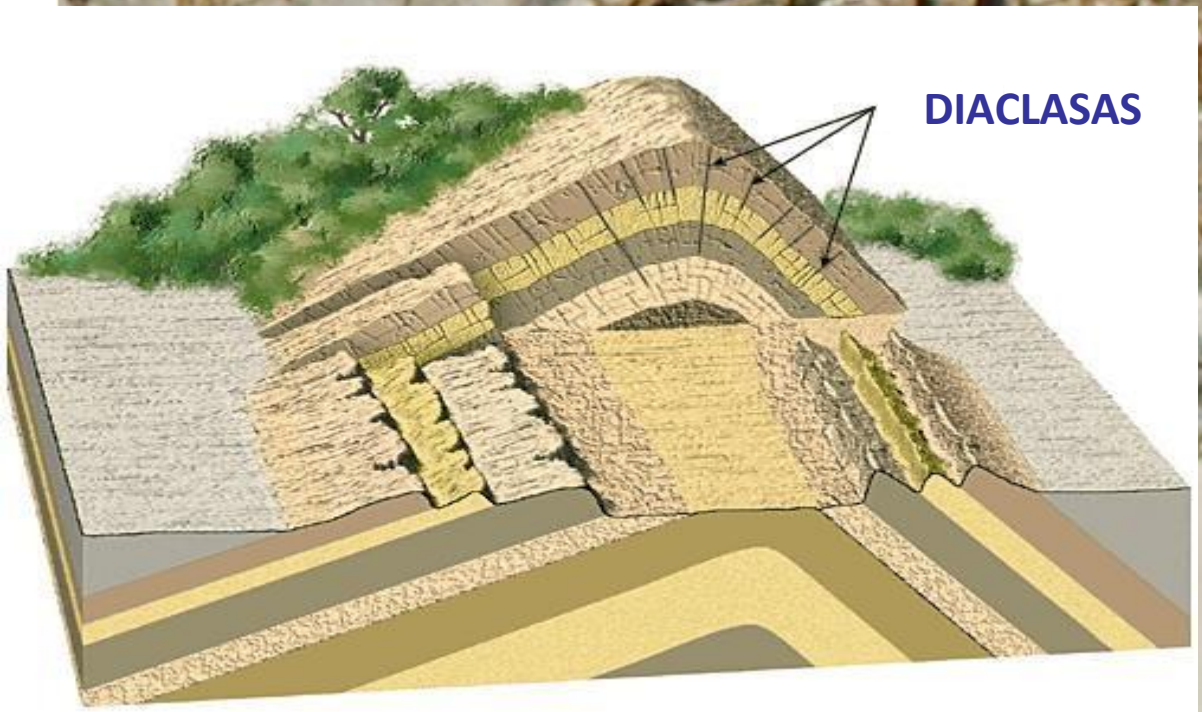
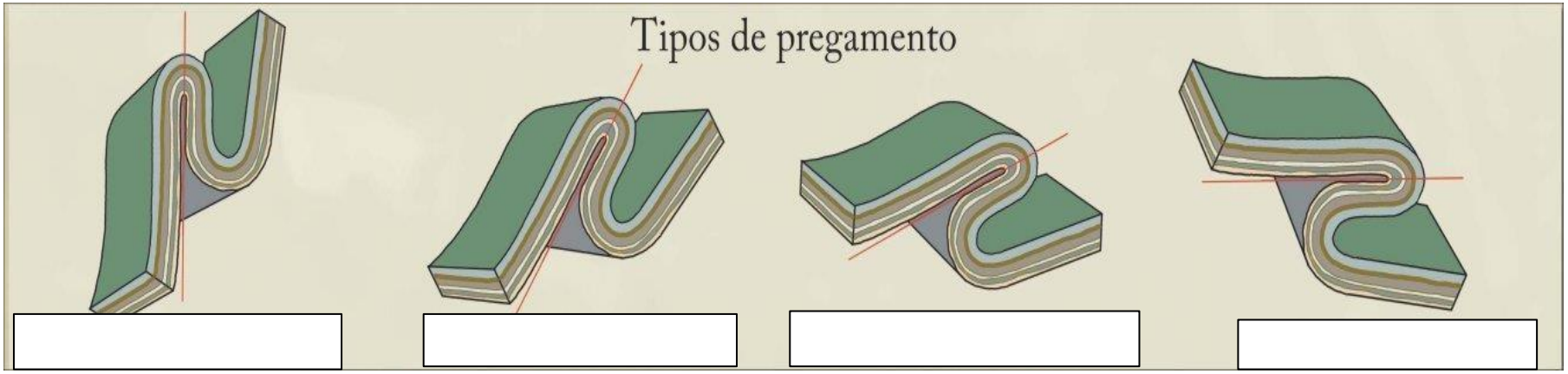


Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2016 TerraMetrics
Fecha de las imágenes: 12/14/2015 42°09'44.76" N 8°43'35.00" O ele

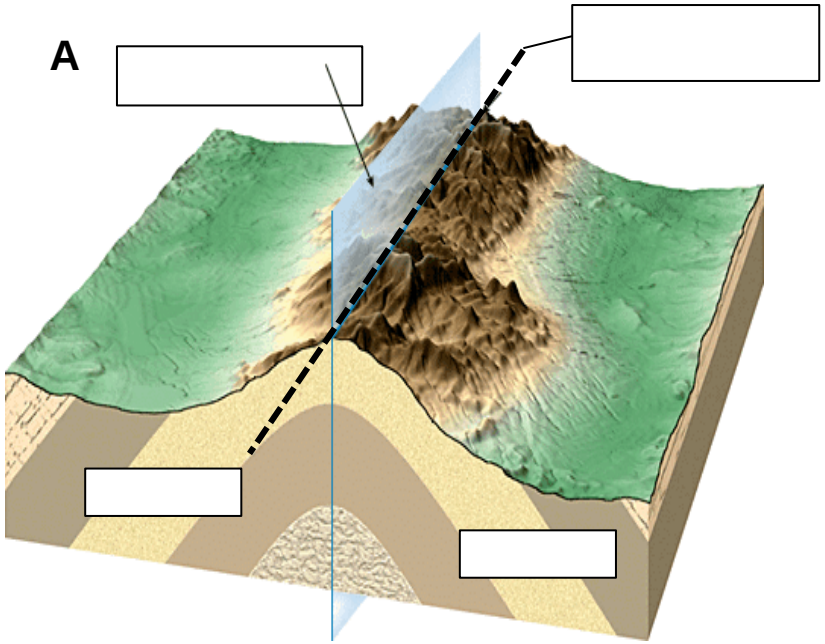

DIACLASAS

EXERCICIO 1 PÁXINA 6

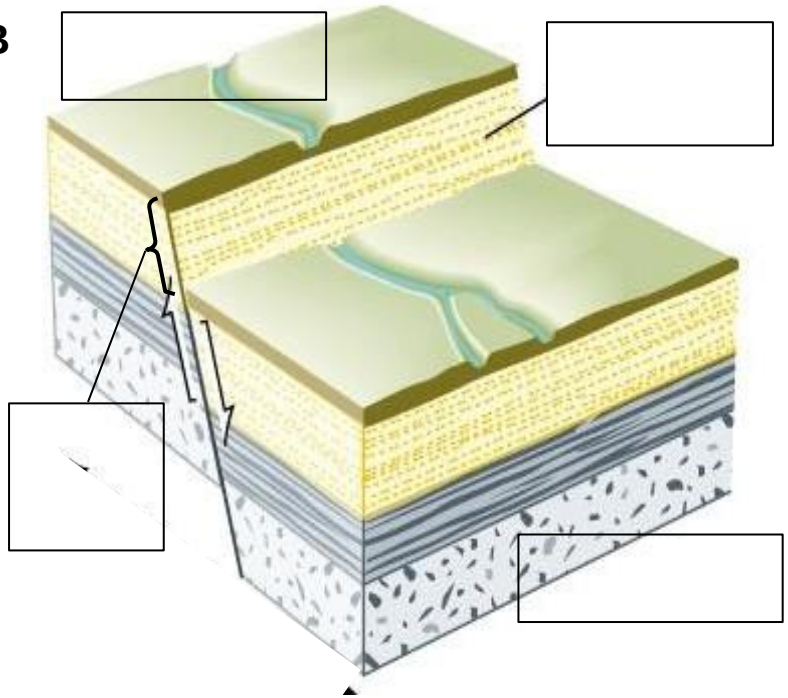


EXERCICIO 2 PÁXINA 7

A

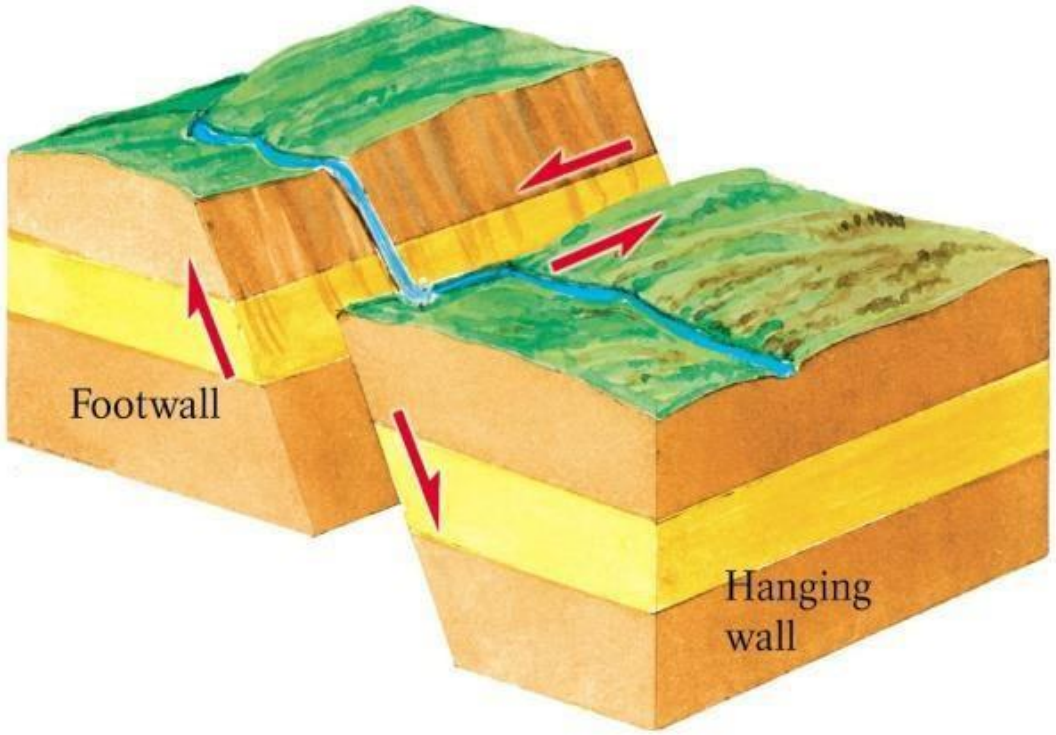


B



EXERCICIO 3 PÁXINA 7

O esquema inferior é de unha falla. Sitúa nela as partes e clasifícaa segundo os criterios que estudamos na clase.
As estrías son rabuñaduras que aparecen nalgunhas fallas a causa dos movementos dos bloques. En que parte da falla pensas que se atoparán?



EXERCICIO 4 PÁXINA 7

4. Debuxa as seguintes estruturas tectónicas:

a) Unha falla oblicua normal dereita.

b) Un horst limitado por fallas inversas.

c) Un prego sinclinal inclinado

d) Un prego anticlinal recto

EXERCICIO 5 PÁXINA 7

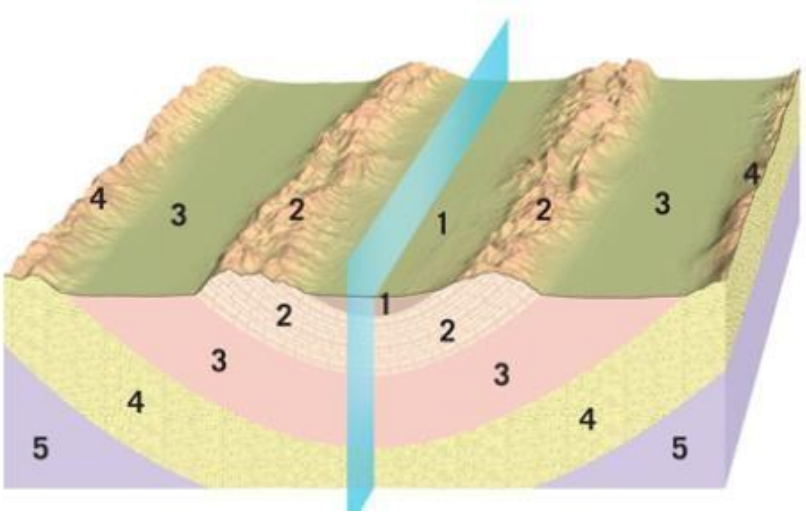
6. Copia as seguintes frases no caderno de exame, completando cada unha coa palabra que falta:

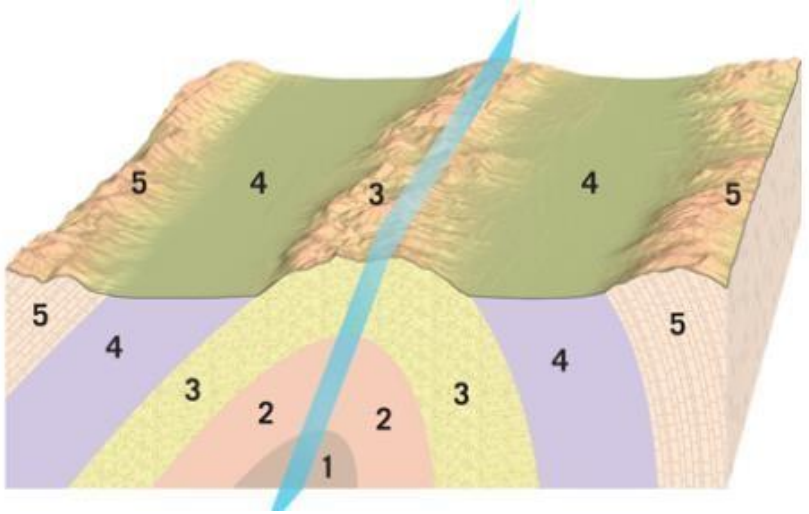
1. Nunha dobra _____os estratos máis antigos están no centro ou núcleo.
2. A descompresión provoca a aparición de fracturas no granito, denominadas _____.
3. Nunha dobra _____os estratos máis recentes están no centro ou núcleo.

7. Define os seguintes termos:

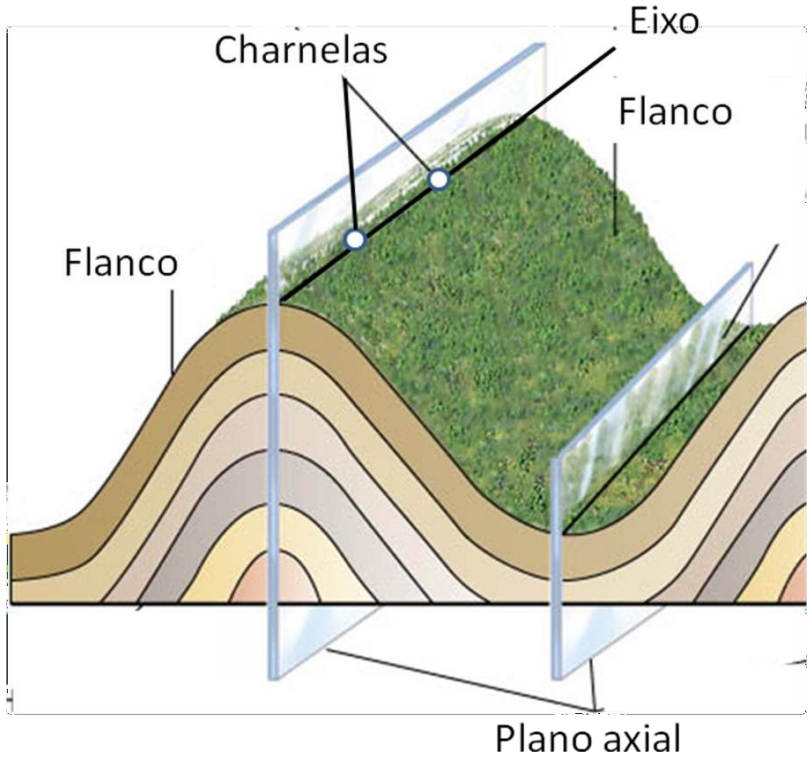
Anticlinal - Charnela - Sinclinal

ANTICLINAL - SINCLINAL

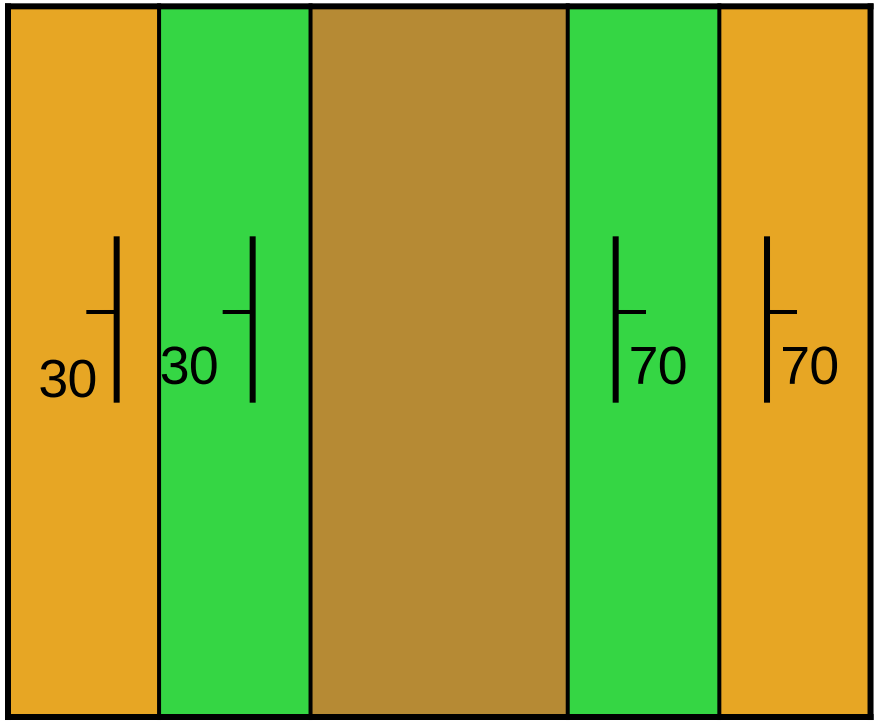


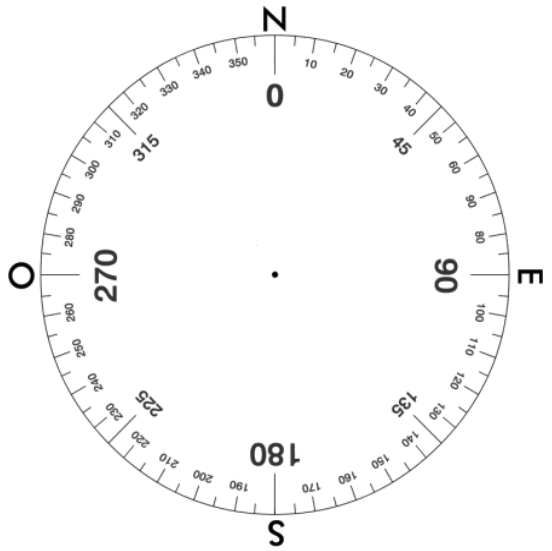


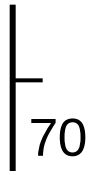
CHARNELA

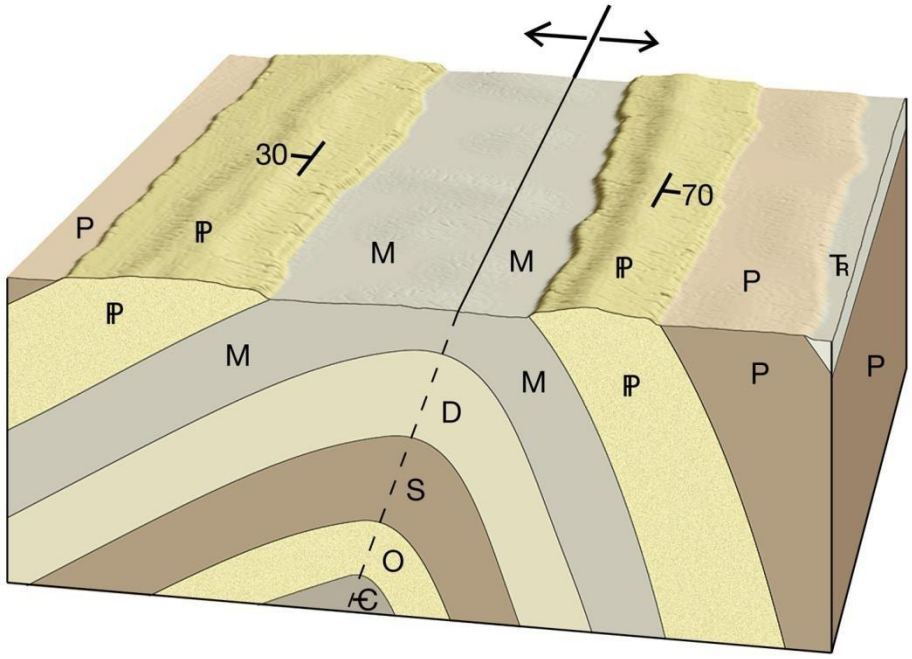


MAPA XEOLÓXICO

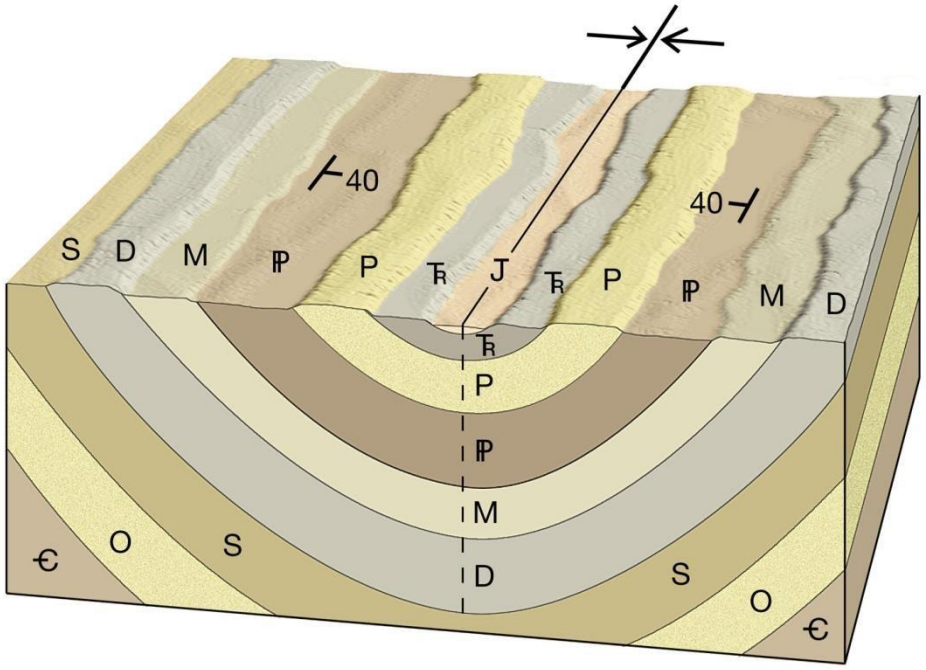






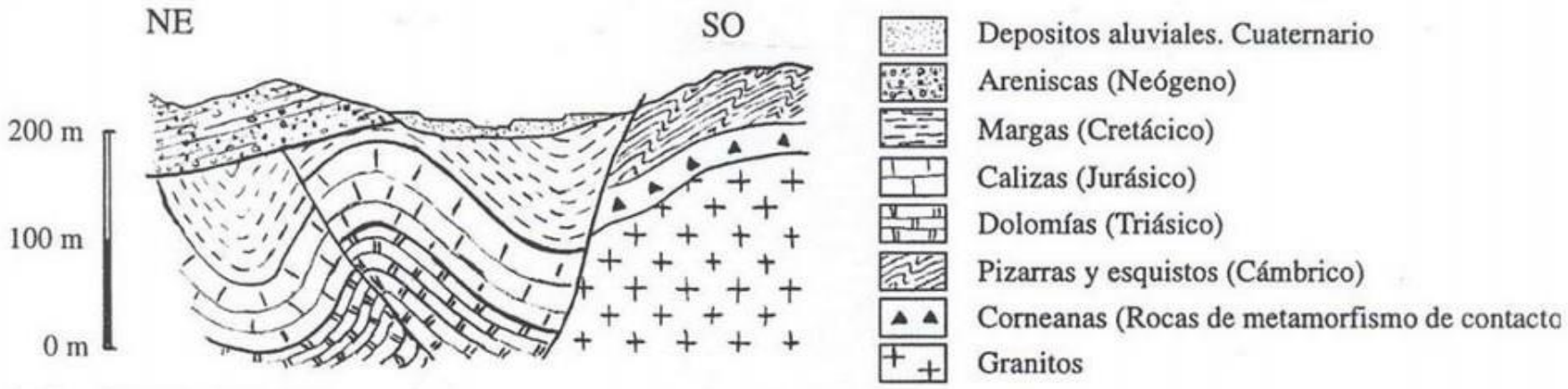


A. Anticline (asymmetrical): oldest rocks (Є) occur in the center of the fold



B. Syncline (symmetrical): youngest rocks (J) occur in the center of the fold

EXERCICIO 8 PÁXINA 7



8. Observa o corte xeolóxico adxunto e realiza as seguintes actividades referidas ao mesmo:

a) Identifica e clasifica as estruturas tectónicas que aparecen no corte

b) Clasifica, do xeito máis preciso posible, os materiais representados