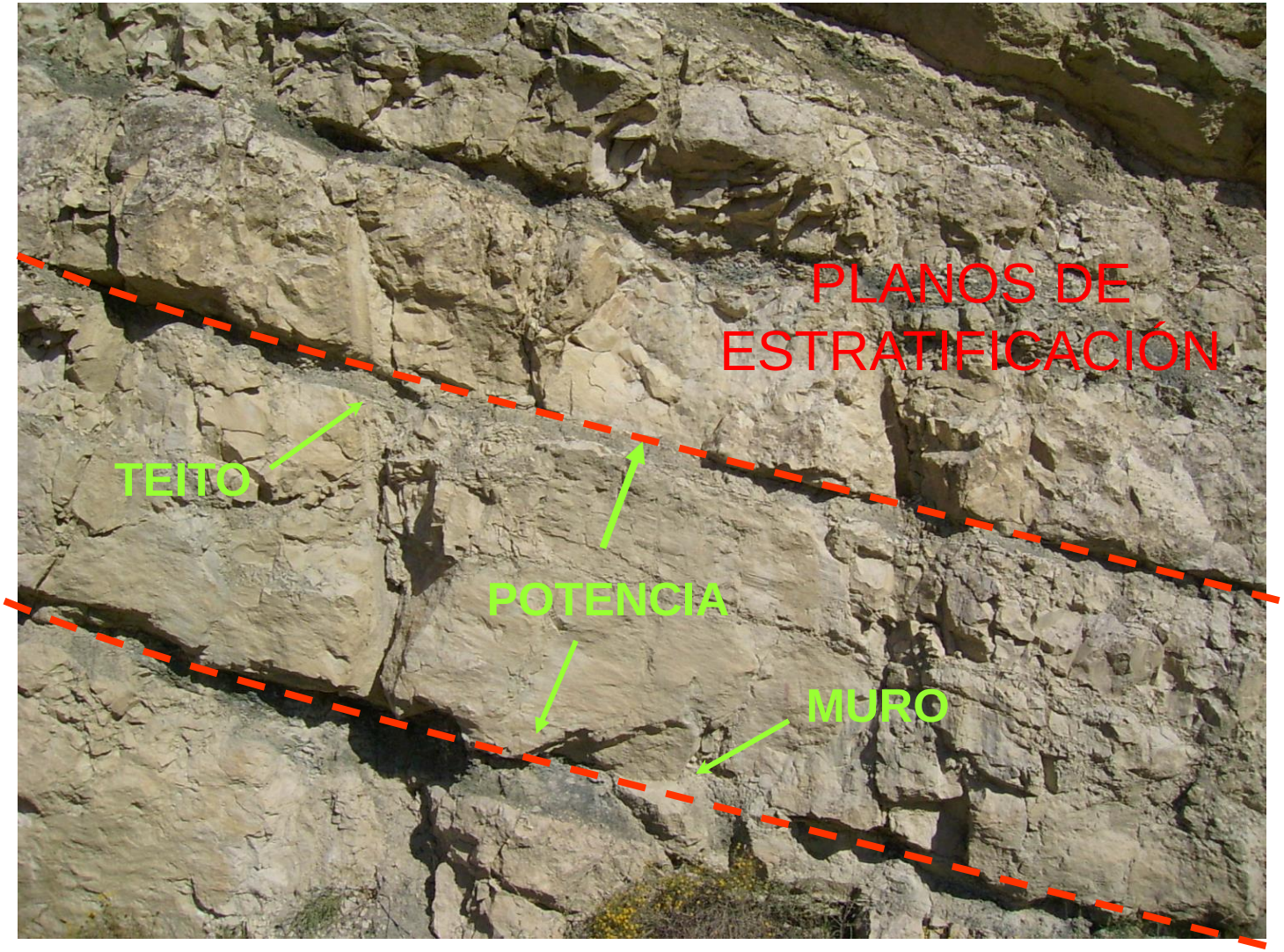
ROCHAS SEDIMENTARIAS

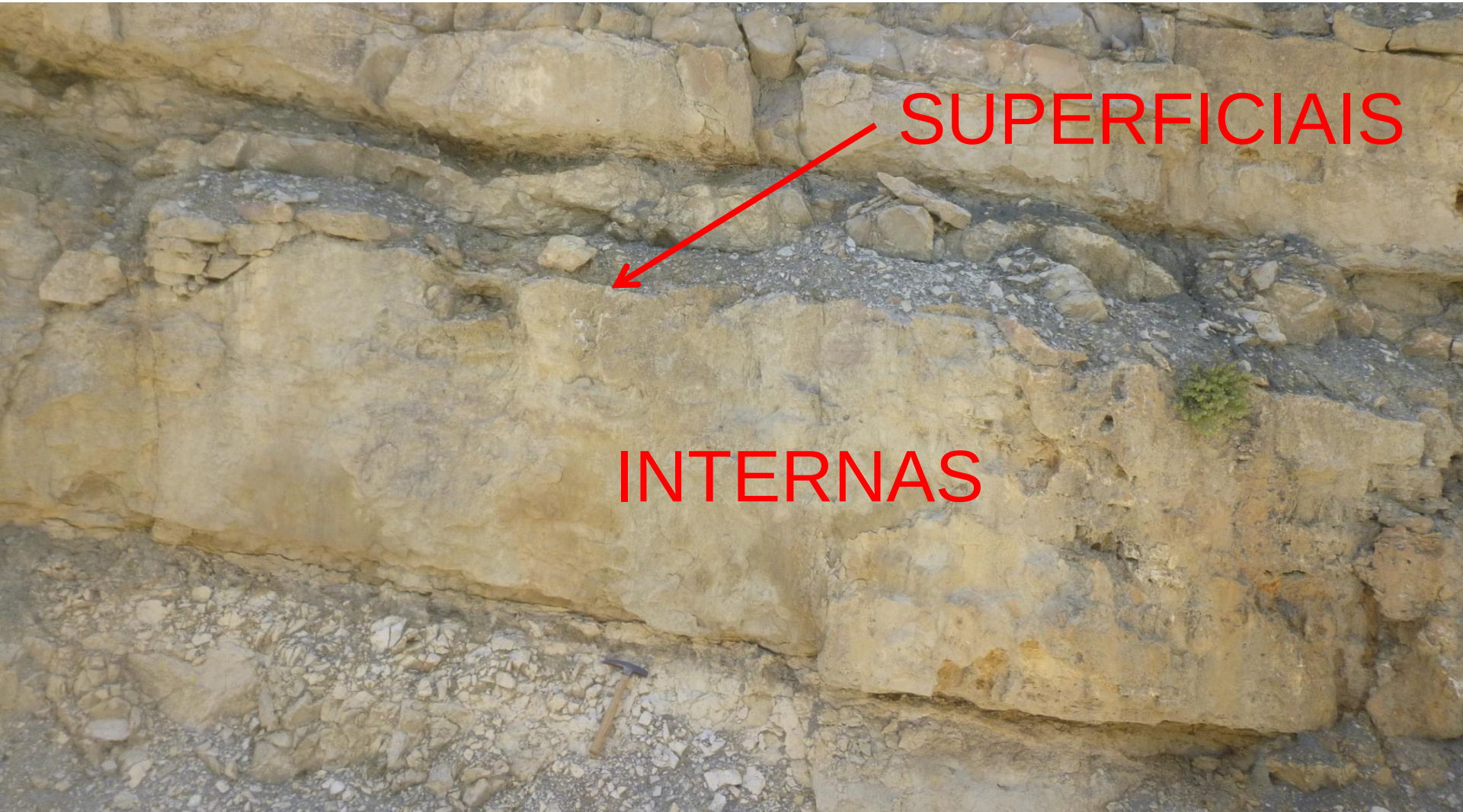
P A R T E I I

ESTRUTURAS SEDIMENTARIAS

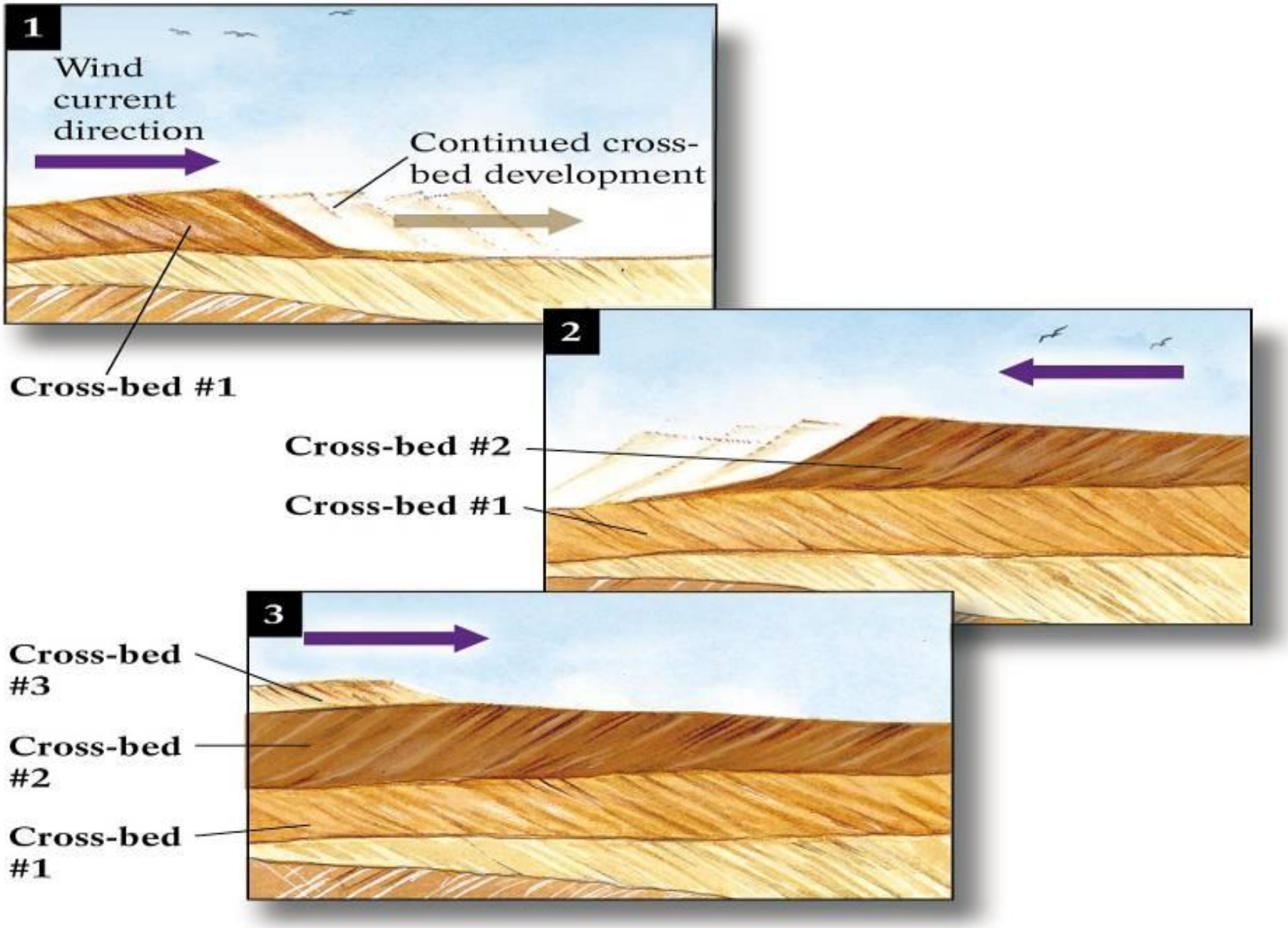
ESTRATIFICACIÓN



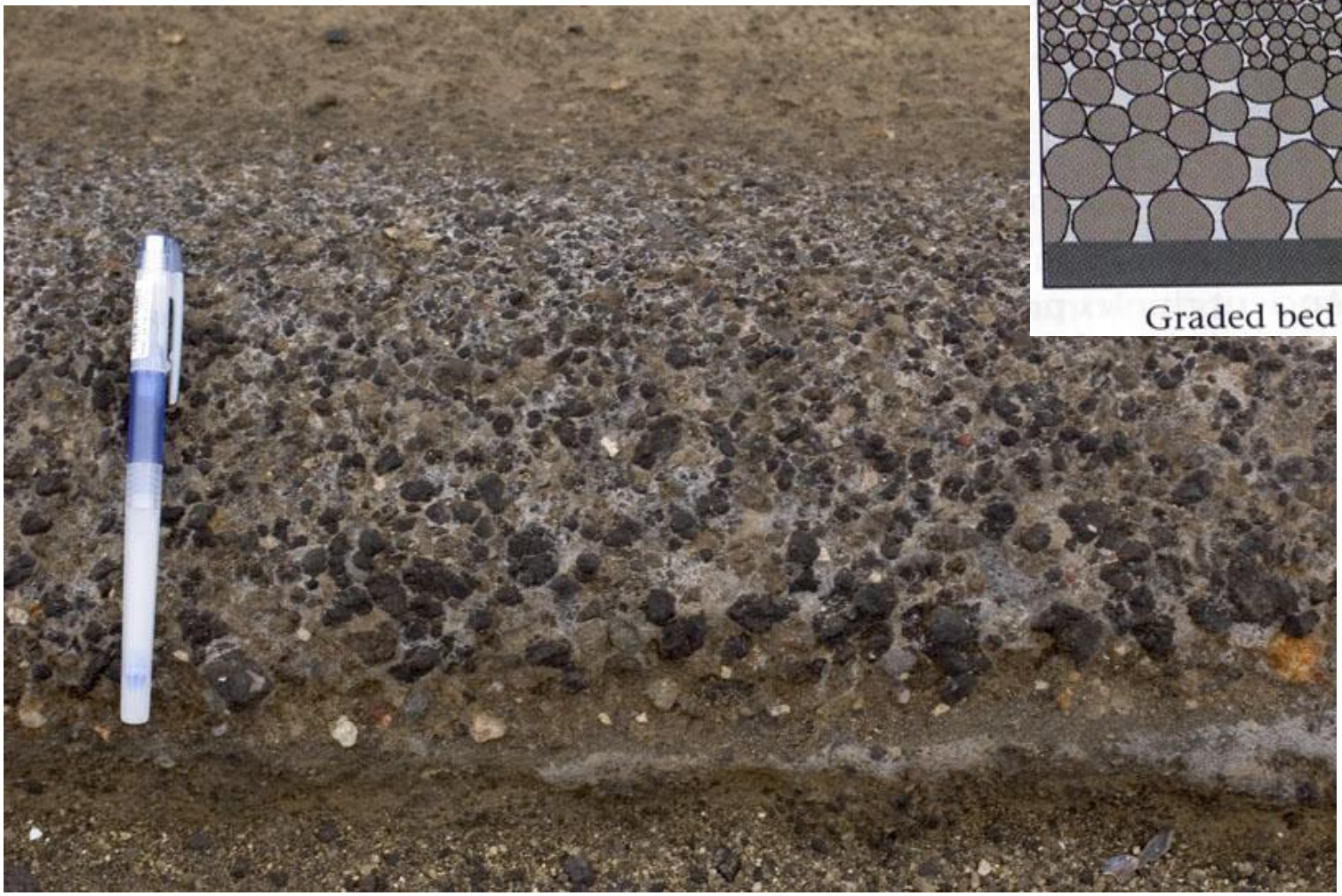
ESTRUTURAS SECUNDARIAS

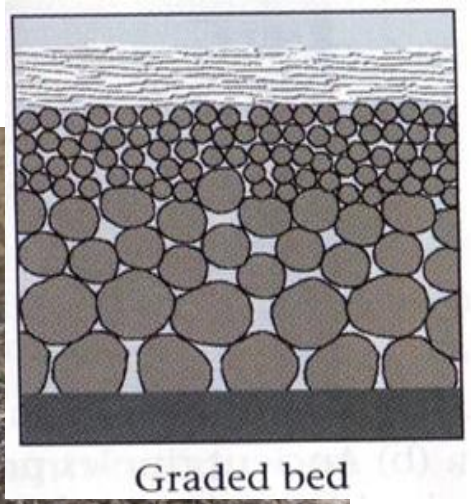


ESTRATIFICACIÓN CRUZADA

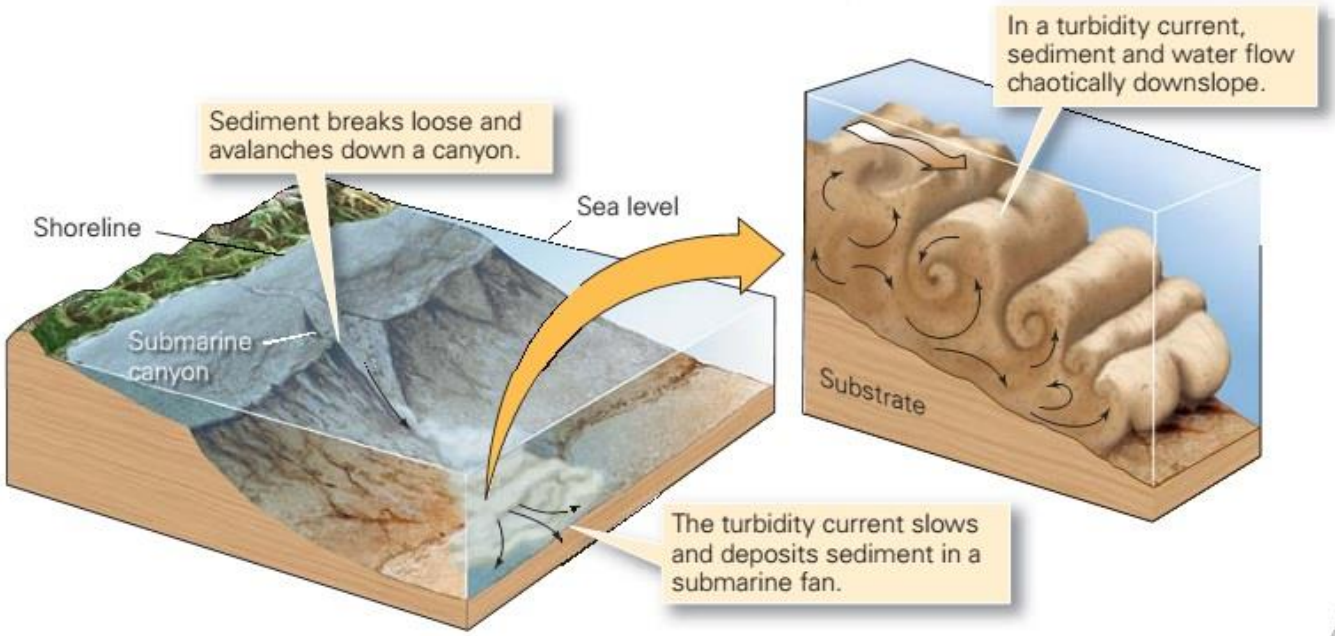

1
Wind current direction
Continued cross-bed development
Cross-bed #1
2
Cross-bed #2
Cross-bed #1
3
Cross-bed #3
Cross-bed #2
Cross-bed #1

ESTRATIFICACIÓN GRADADA

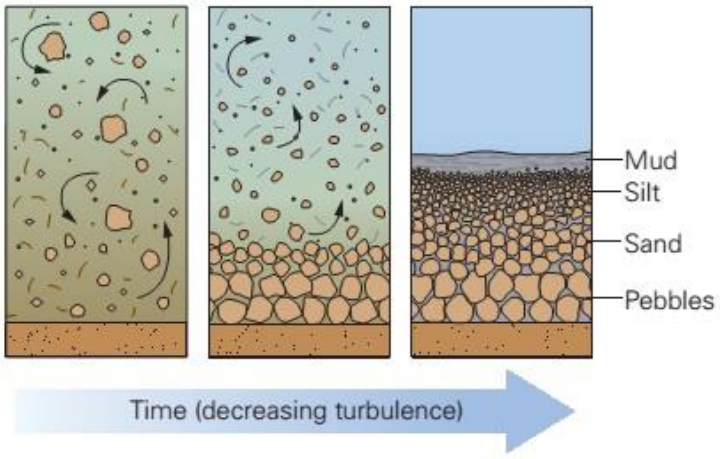




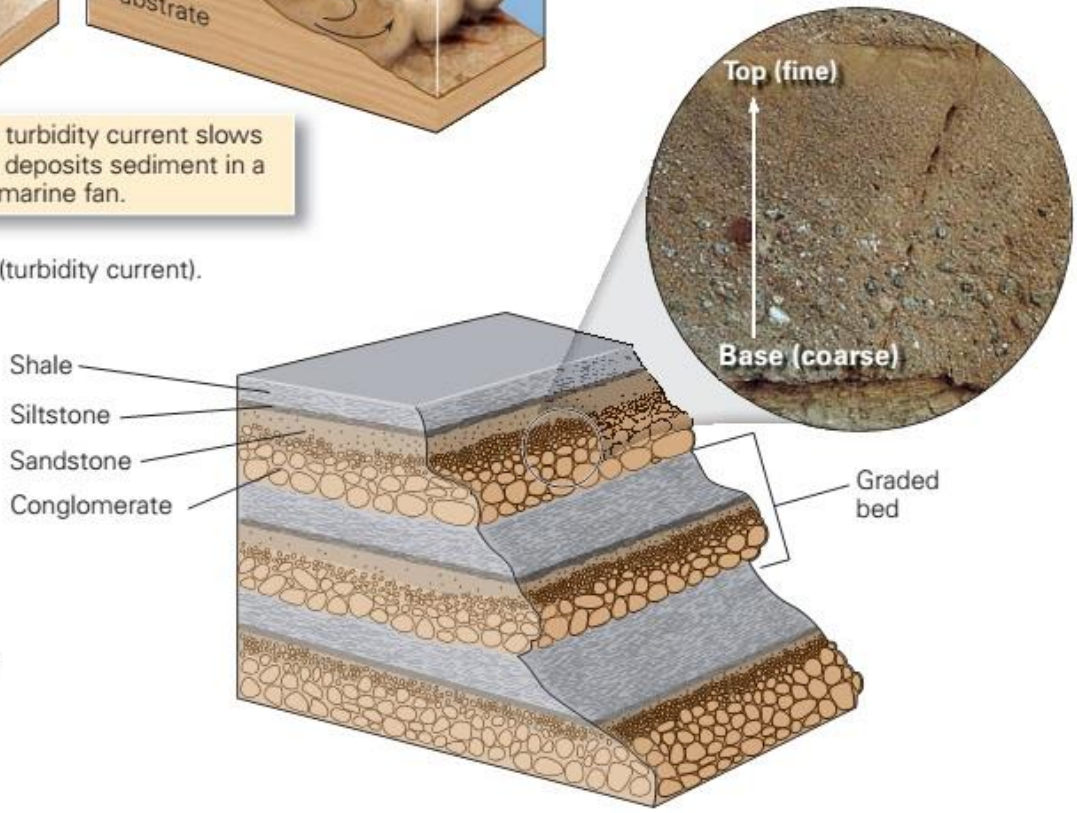
TURBIDITAS



(a) An earthquake or storm triggers an underwater avalanche (turbidity current).



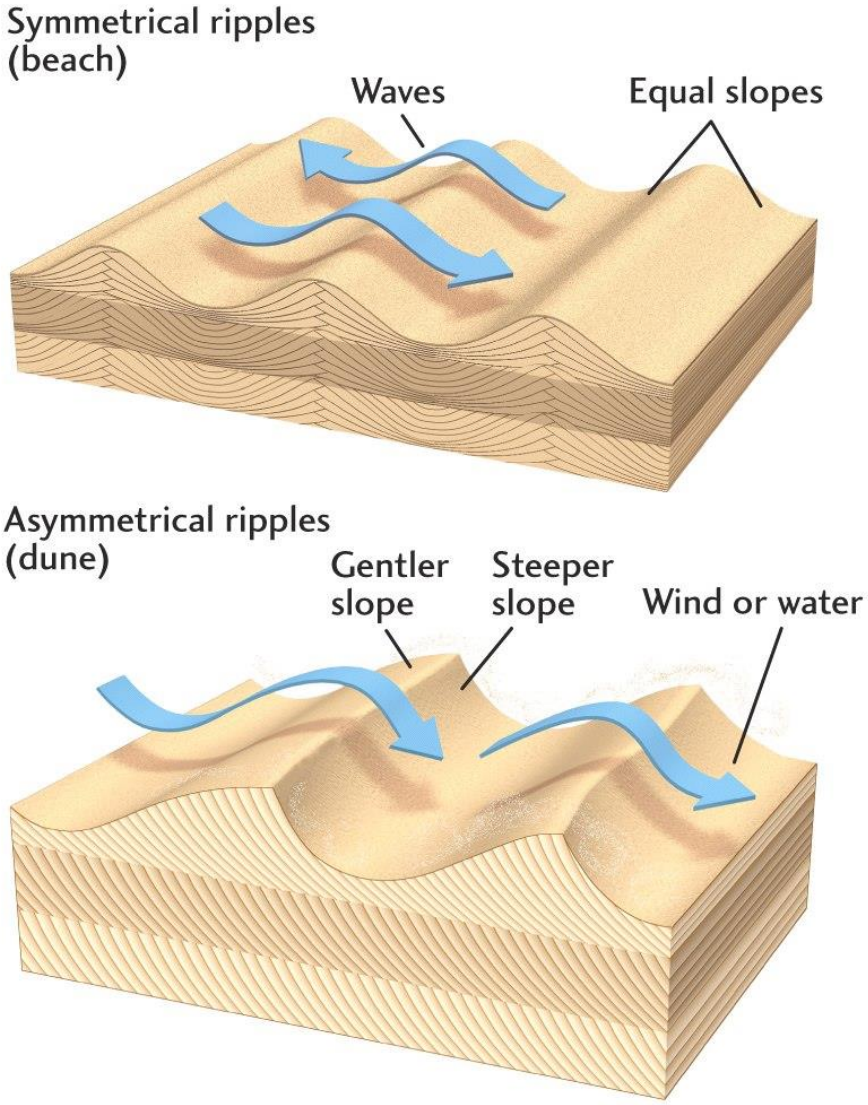
(b) As the turbidity current slows, larger grains settle first, followed by progressively finer grains.

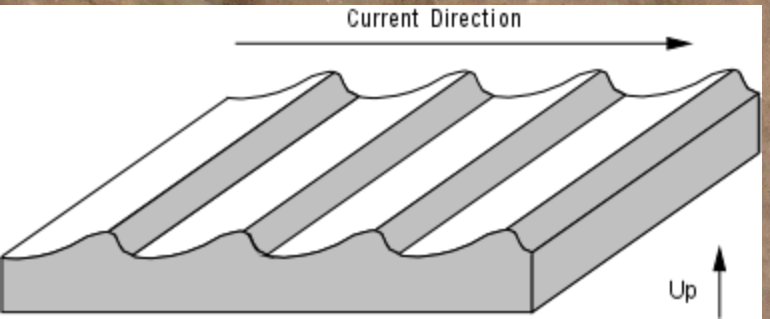


(c) As the process repeats, a succession of graded beds accumulates.

Flysch de Zumaia

RIZADURAS (RIPPLES)




Current Direction
Up

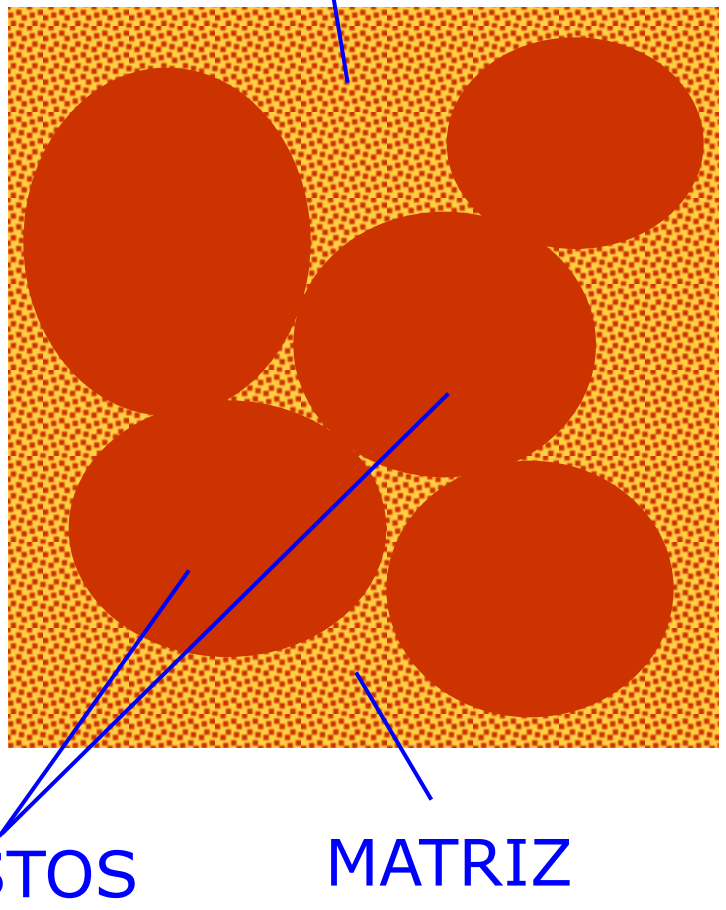
AS ROCHAS SEDIMENTARIAS

a) **ROCHAS DETRÍTICAS**
- Conglomerados ou ruditas
- Areiscas ou samitas
- Lutitas

b) **ROCHAS DE PRECIPITACIÓN**
- Carbonatadas
- Evaporíticas

c) **ORGÁNICAS**

a) **ROCHAS DETRÍTICAS**



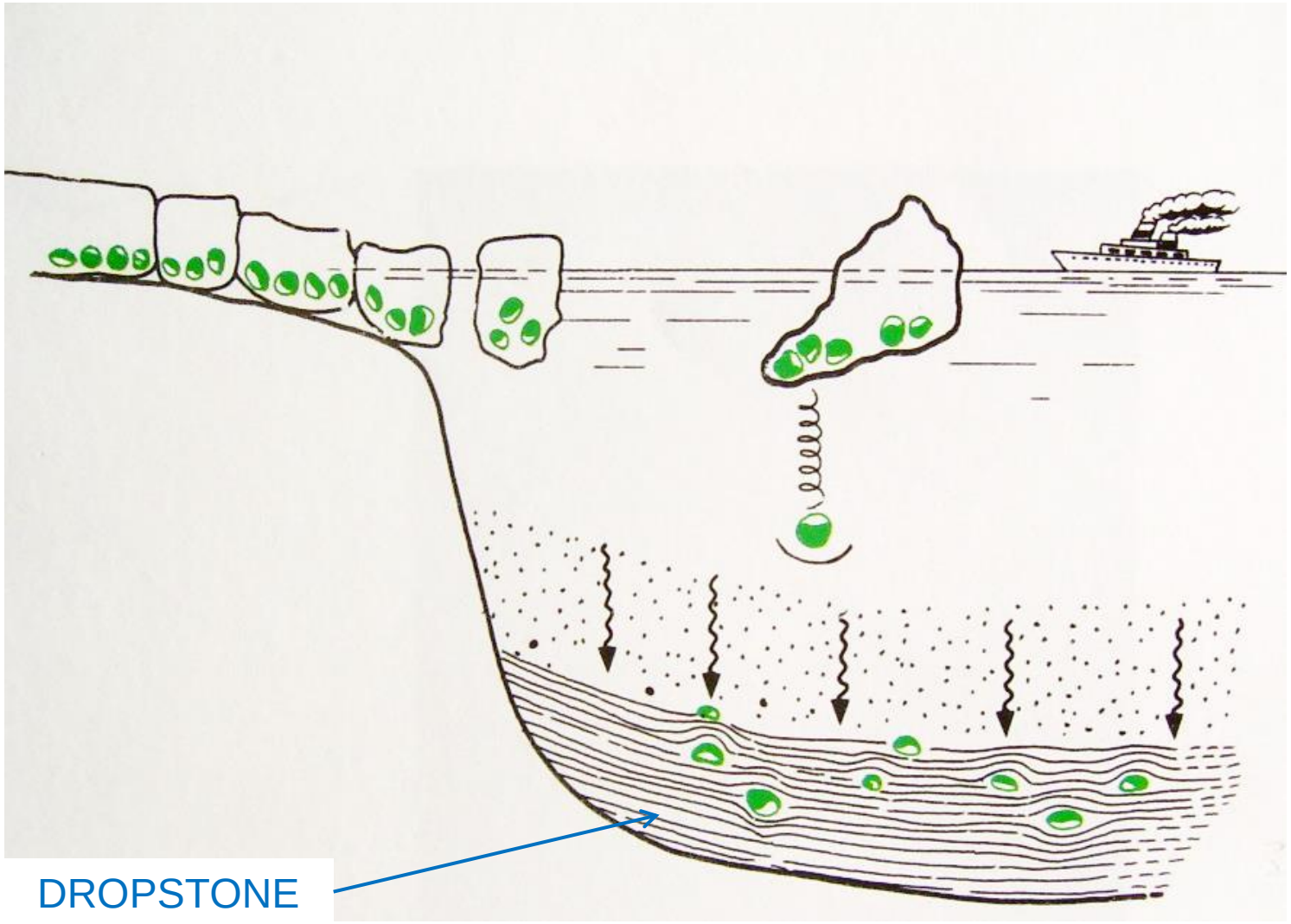
TEXTURA DETRÍTICA OU CLÁSTICA

CONGLOMERADOS

PUDINGA

BRECHA

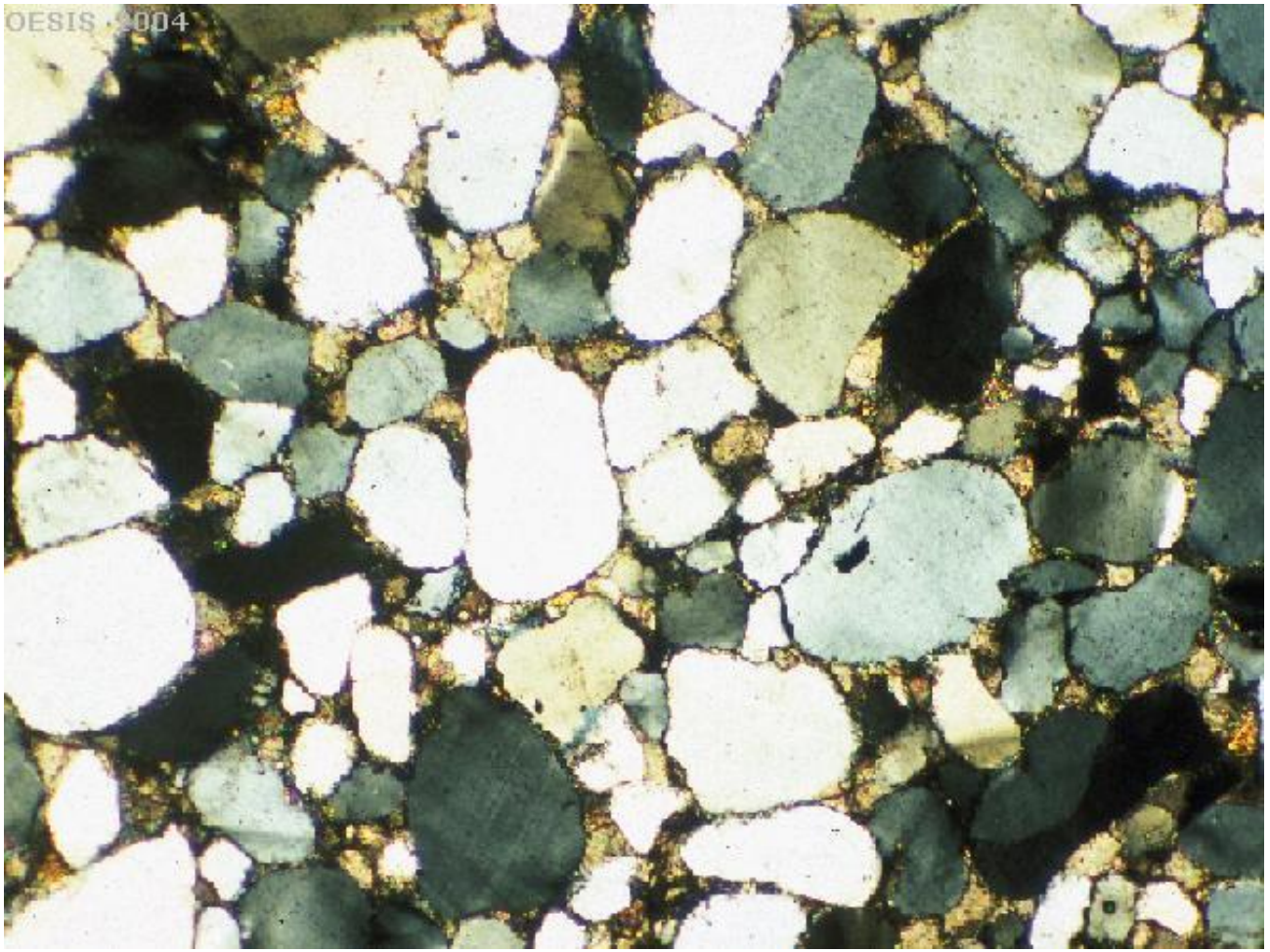
TILLITAS E DROPSTONES

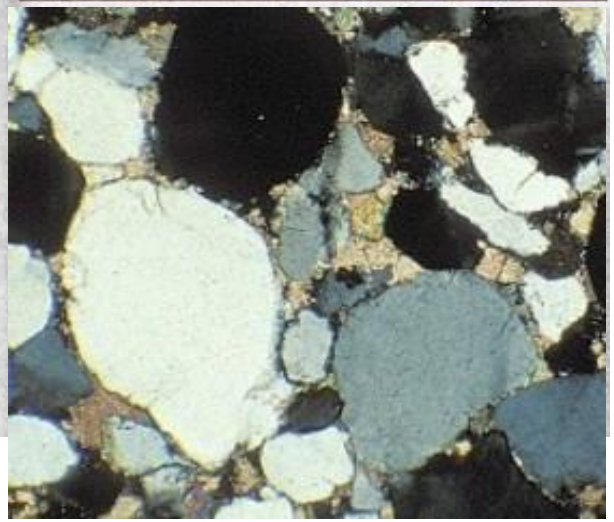


DROPSTONES NA PRAIA DE PICÓN (A CORUÑA)

AREISCA, ARENITO, PEDRA DE GRA

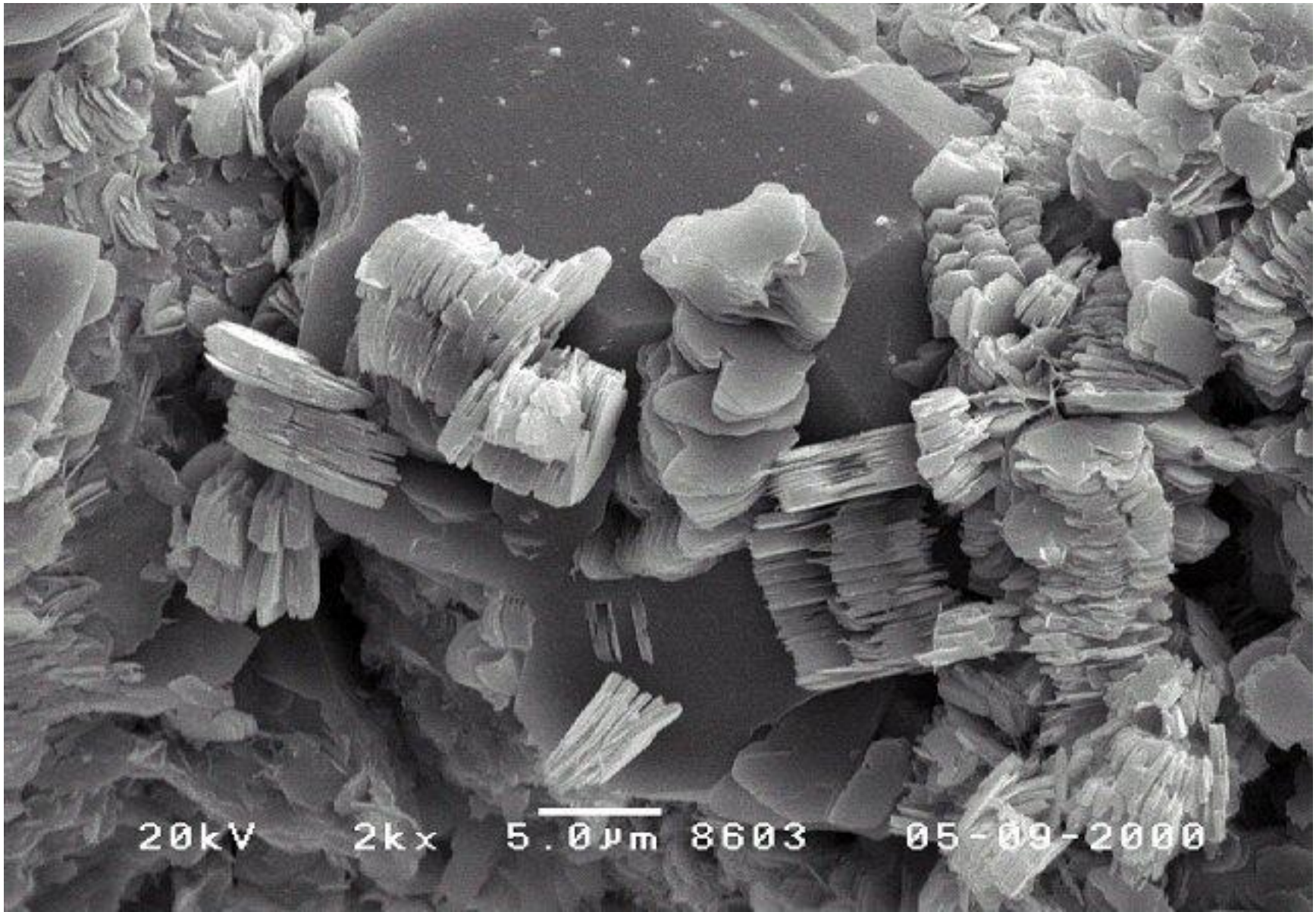
ORTOCUARCITA OU CUARZOARENITA


OESIS ©2004



LUTITAS: clastos < 1/16 mm. Predominan os minerais arxilosos

CAOLINITA, UN EXEMPLO DE MINERAL ARXILOSO



MARGAS: LUTITAS CUNHA CERTA PROPORCIÓN DE $CaCO_3$

EXERCICIO PÁXINA 20

EXERCICIO

Traduce os textos e pon nome á rocha correspondente no cadro da dereita.

Identifica a rocha da foto inferior.

Detrital Sedimentary Rocks

ClasticTexture (particle size)		Sediment Name	Rock Name
Coarse (over 2 mm)		Gravel (Rounded particles)	
		Gravel (Angular particles)	
Medium (1/16 to 2 mm)		Sand	
Fine (1/16 to 1/256 mm)		Mud	
Very fine (less than 1/256 mm)		Mud	

EXERCICIO ABAU

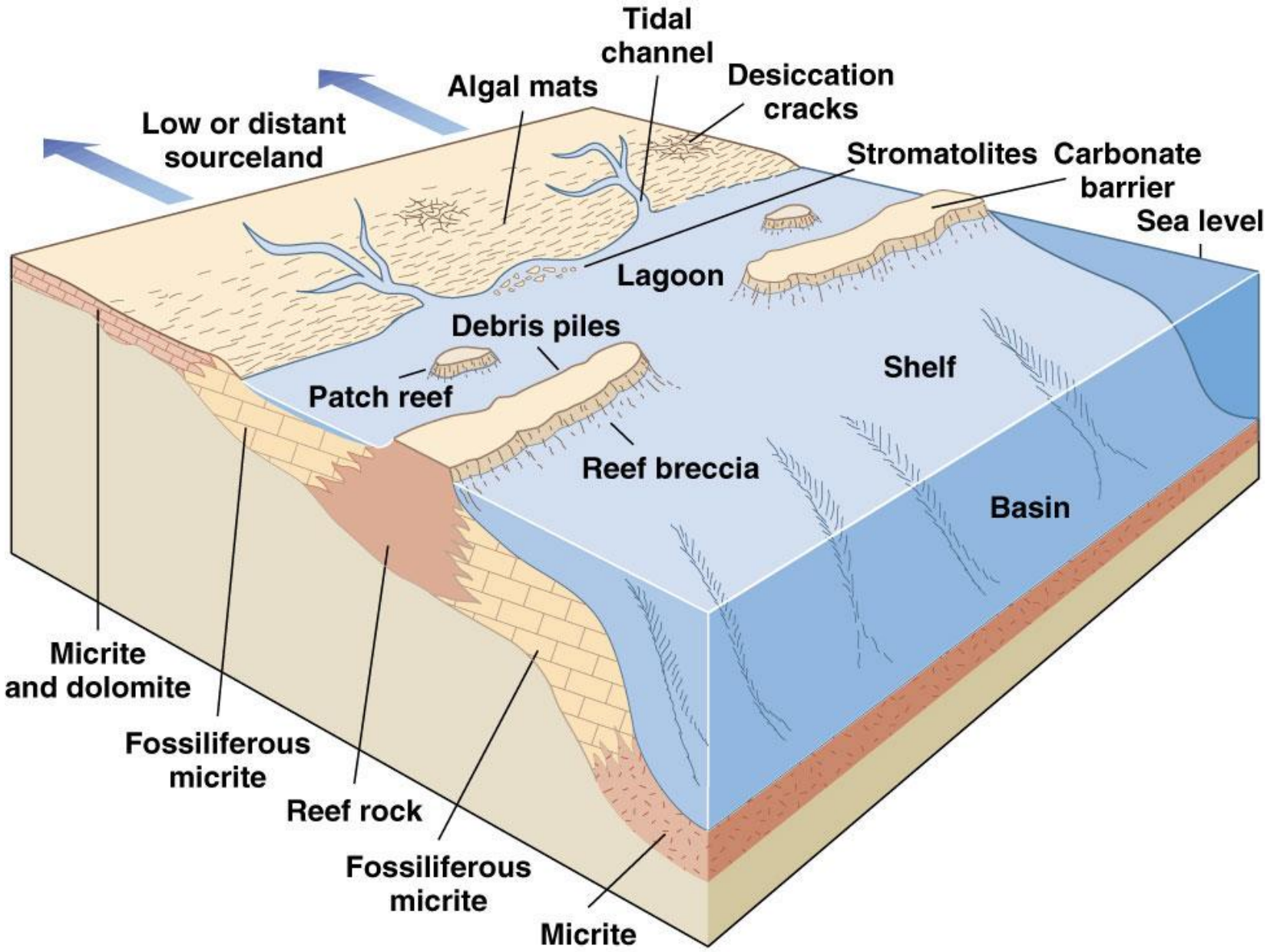
1. Forma cinco frases correctas e con significado xeolóxico empregando un término de cada columna en cada frase

PERIDOTITA	FUSIÓN	LOUSA
COMPACTACIÓN	SEDIMENTARIA	SÍLICE
BRECHA	METAMORFISMO	ANGULOSOS
LUTITA	CEMENTACIÓN	MIGMATITA
ANATEXIA	PLUTÓNICA	DIAXÉNESE

b) **ROCHAS DE PRECIPITACIÓN**

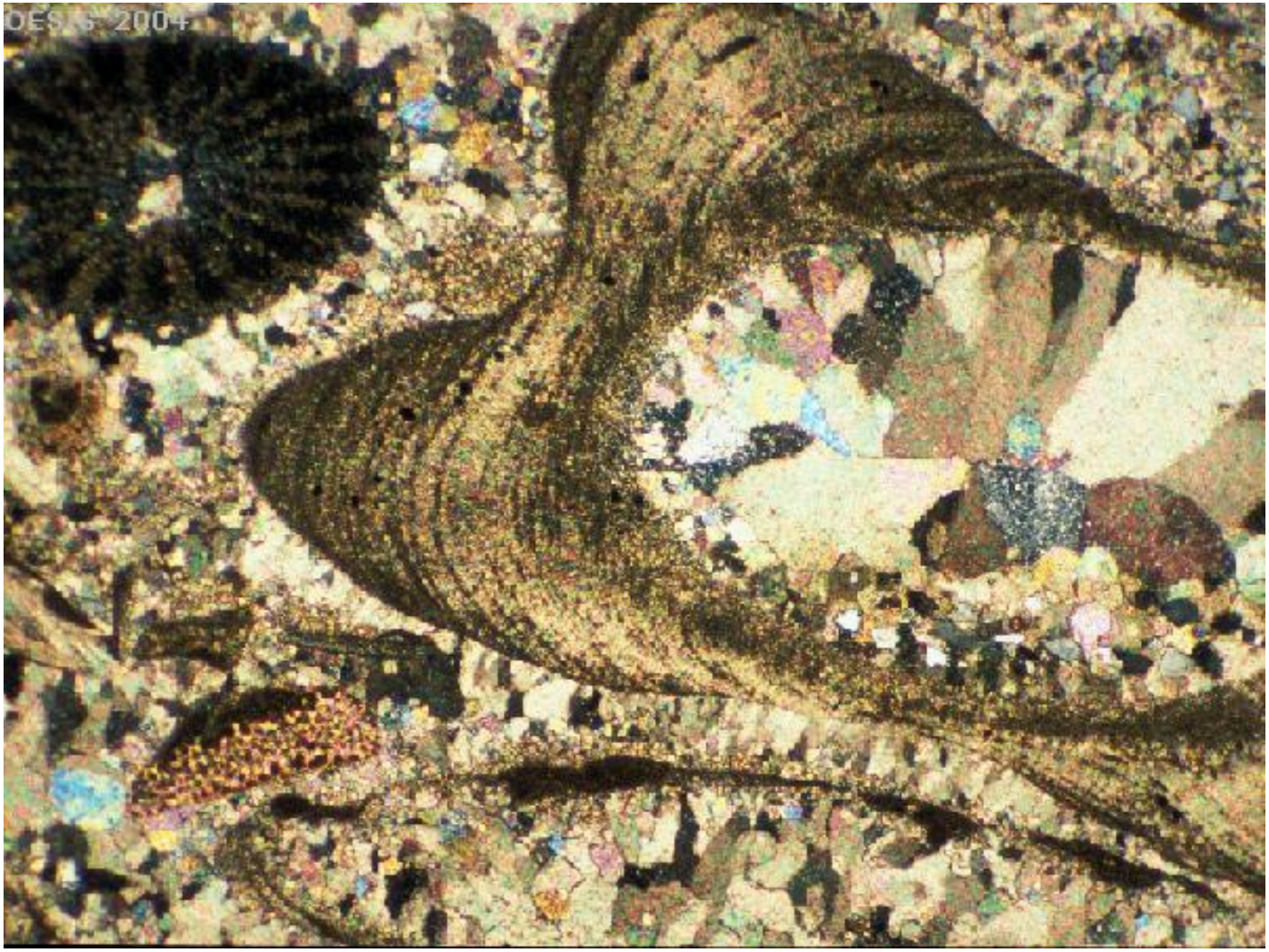
Rochas carbonatadas: máis do 50 % son carbonatos

PLATAFORMAS CARBONATADAS

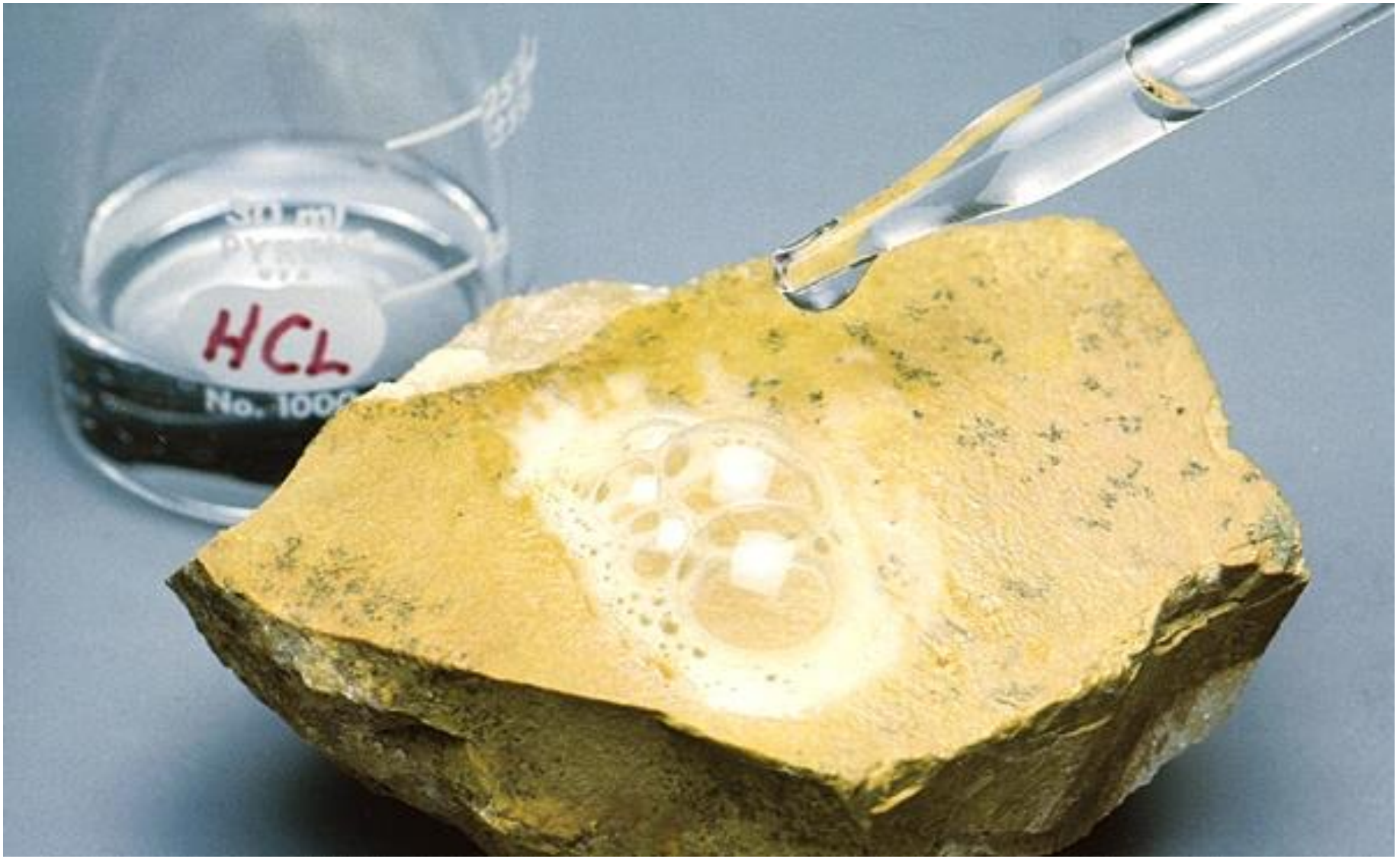


(a)

Coquinas ou lumaquelas



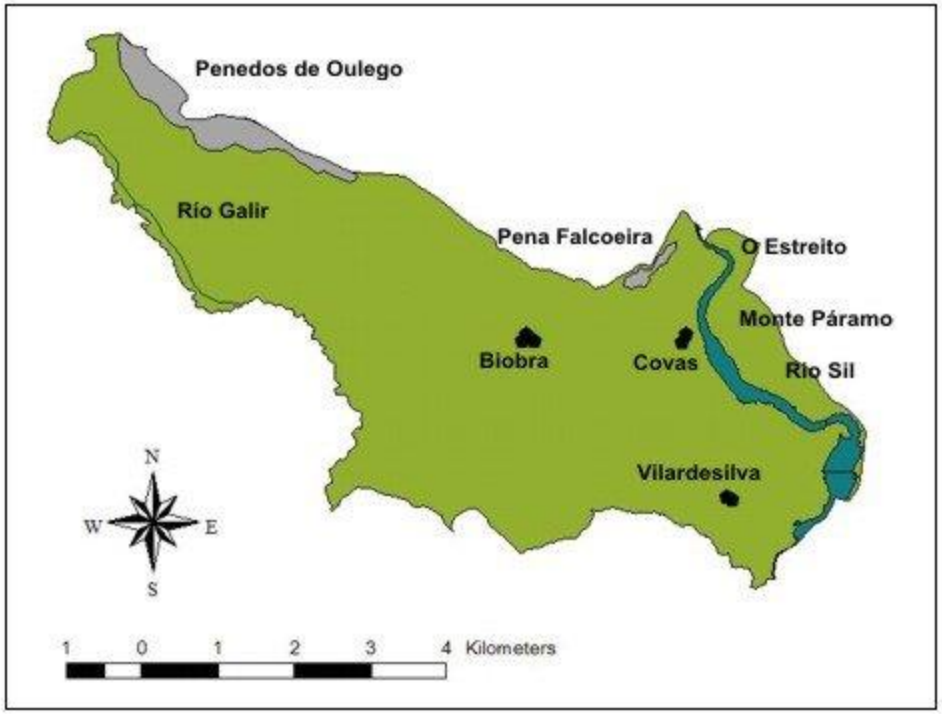
Efervescencia co HCl en frío

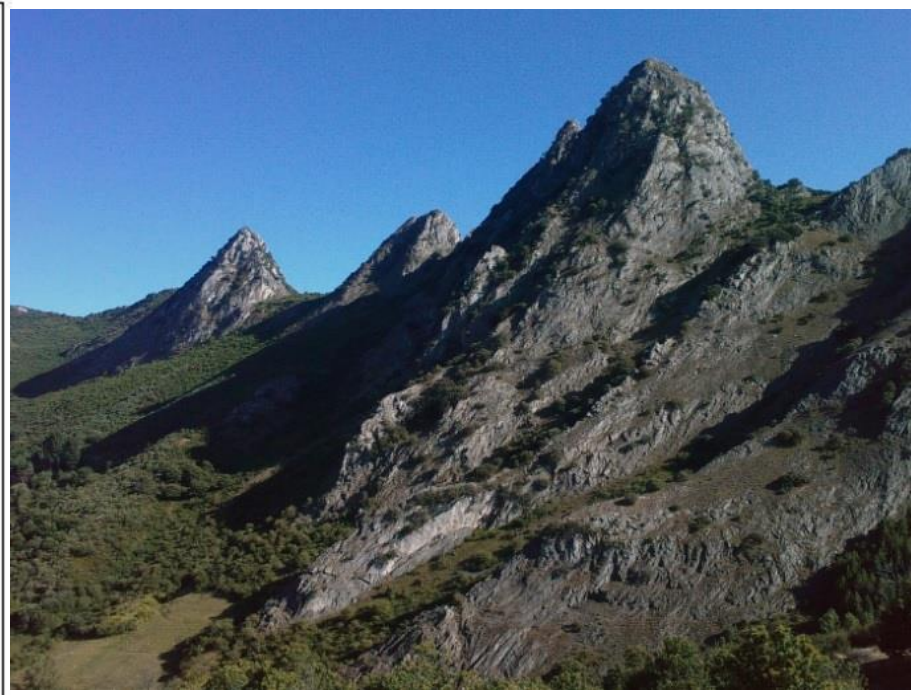



DEVESA DA ROGUEIRA (O COUREL-LUGO)

FERVENZAS DE TRAVERTINO EN PAMUKALE (TURQUÍA)

Parque natural Enciña da Lastra





DOLOMÍA

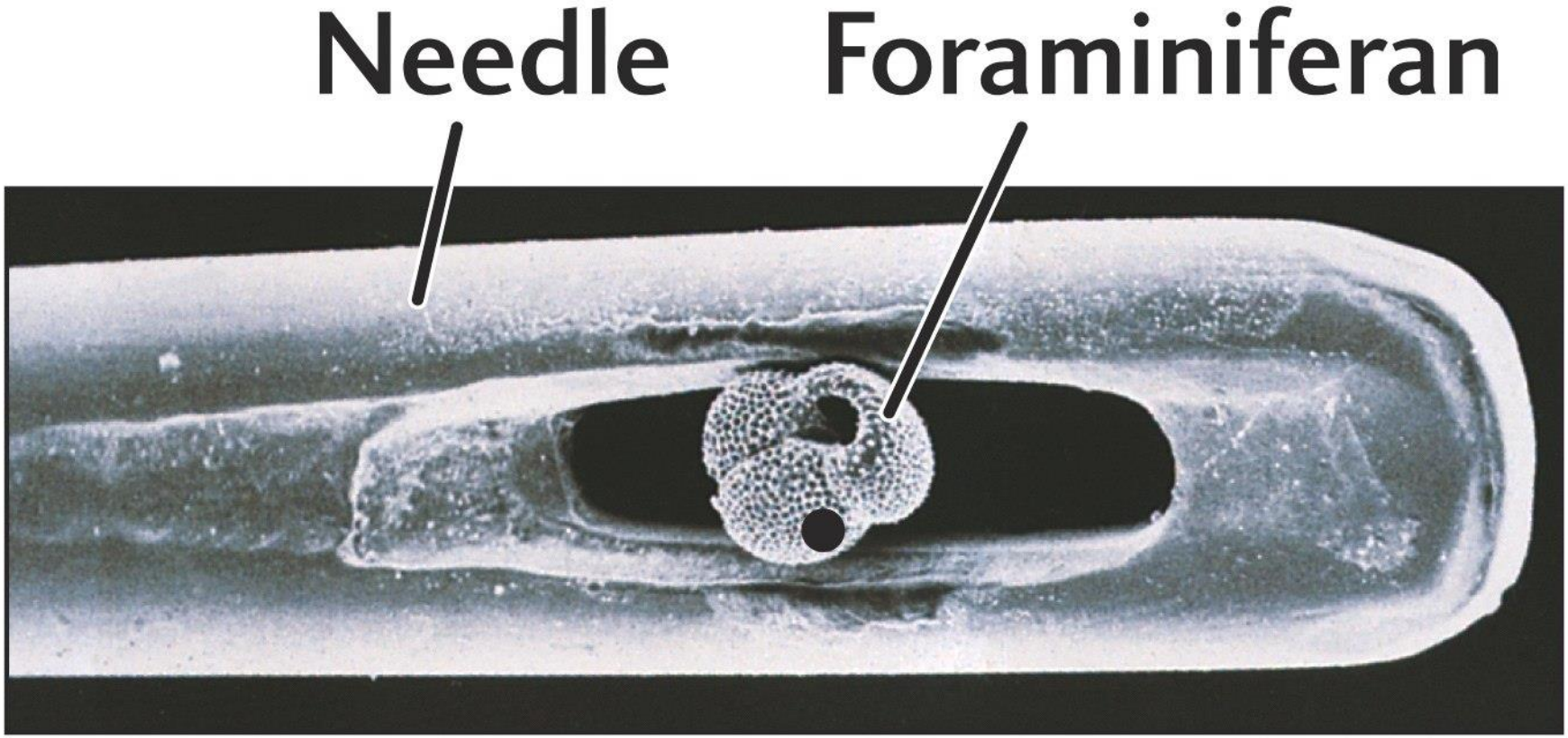
Predomina a dolomita (carbonato de Ca e Mg)

Efervescencia en quente pero non en frío

DOLOMÍA CEBRADA

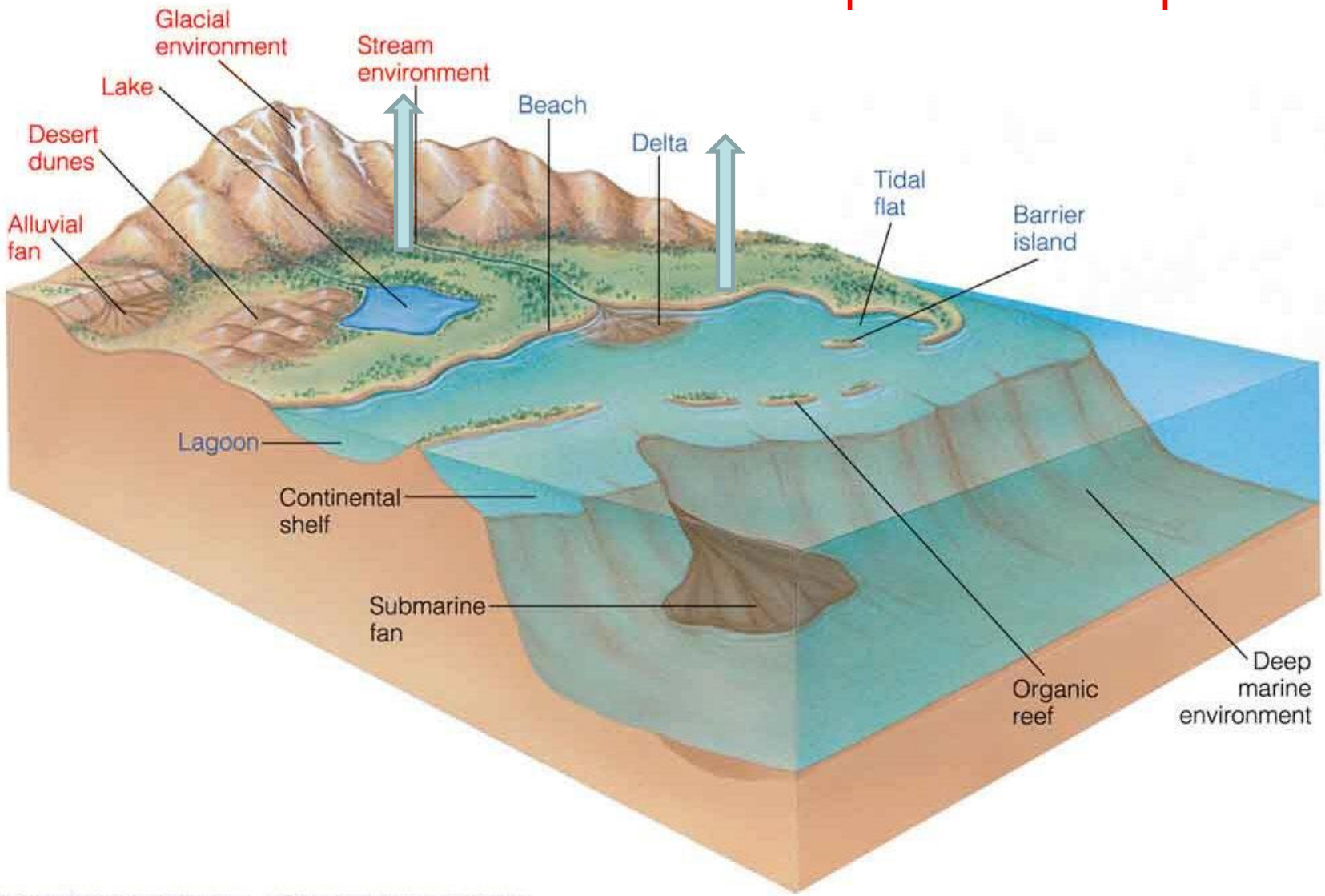
Sílex: composto de sílice. A partir de diatomeas ou esponxas.

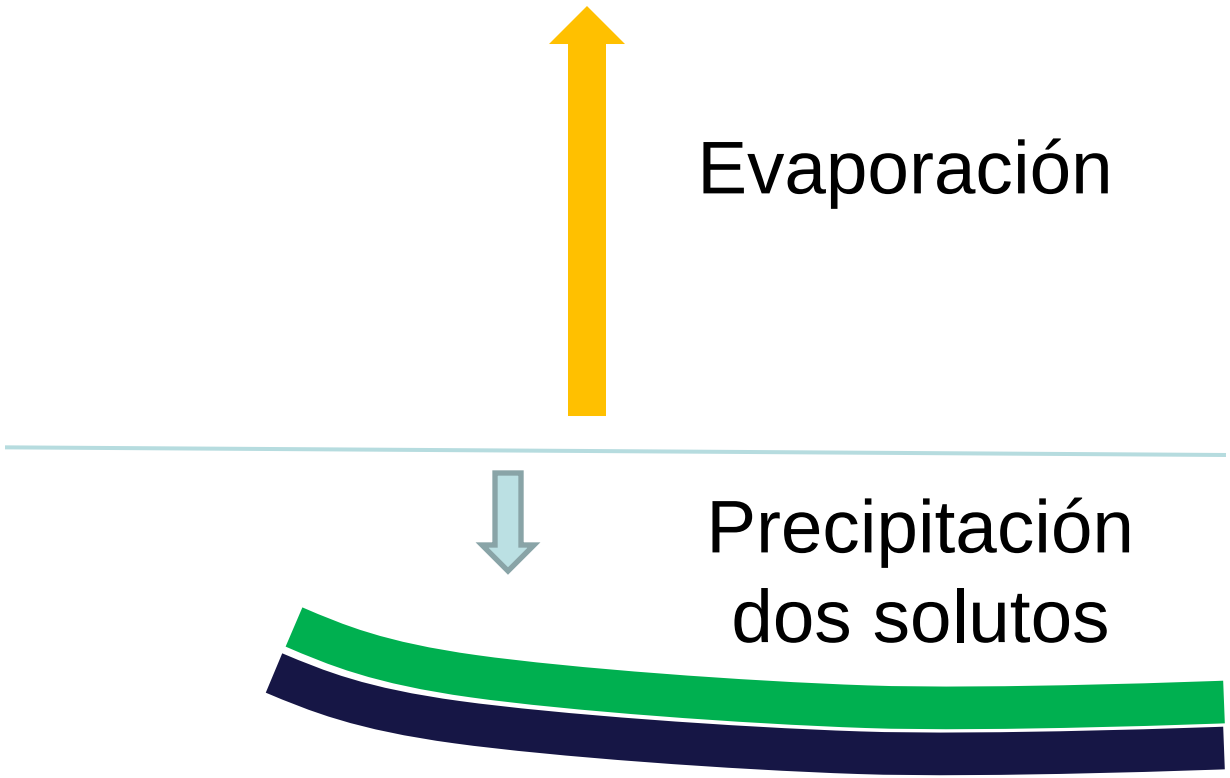
Cantís de Dover (Inglaterra)


Needle
Foraminiferan

ROCHAS EVAPORÍTICAS

Evaporación > Aportes





HALITA E XESO AS MÁIS IMPORTANTES

Mar morto

HALITA / SAL XEMA


5 cm

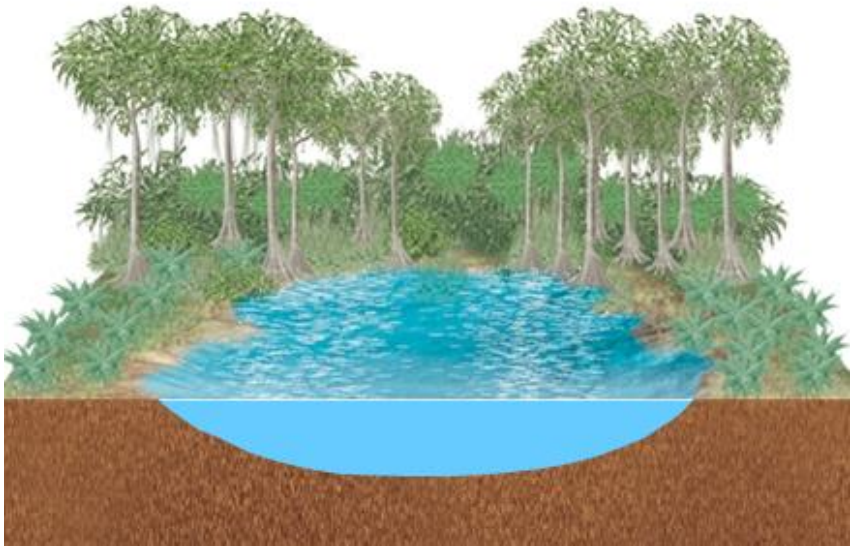
Cova de xesos en Sorbas (Almería)

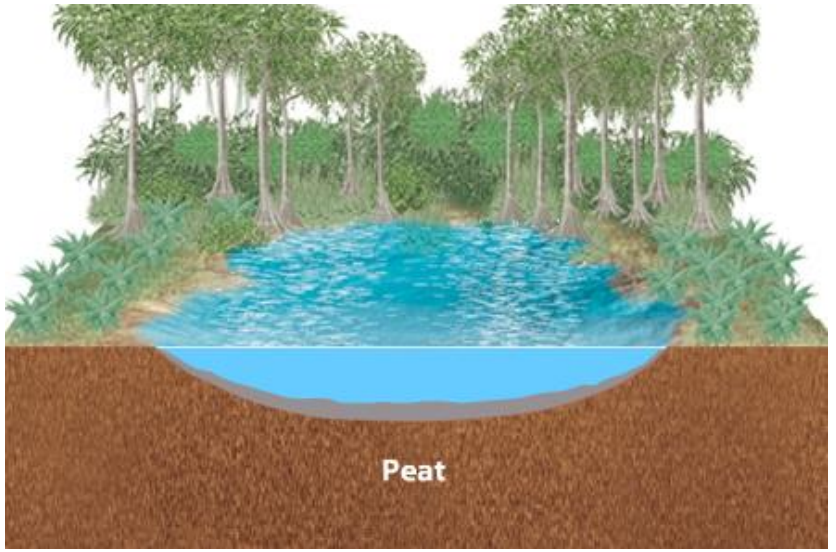
c) ROCHAS ORGANÓXENAS

COMBUSTIBLES FÓSILES

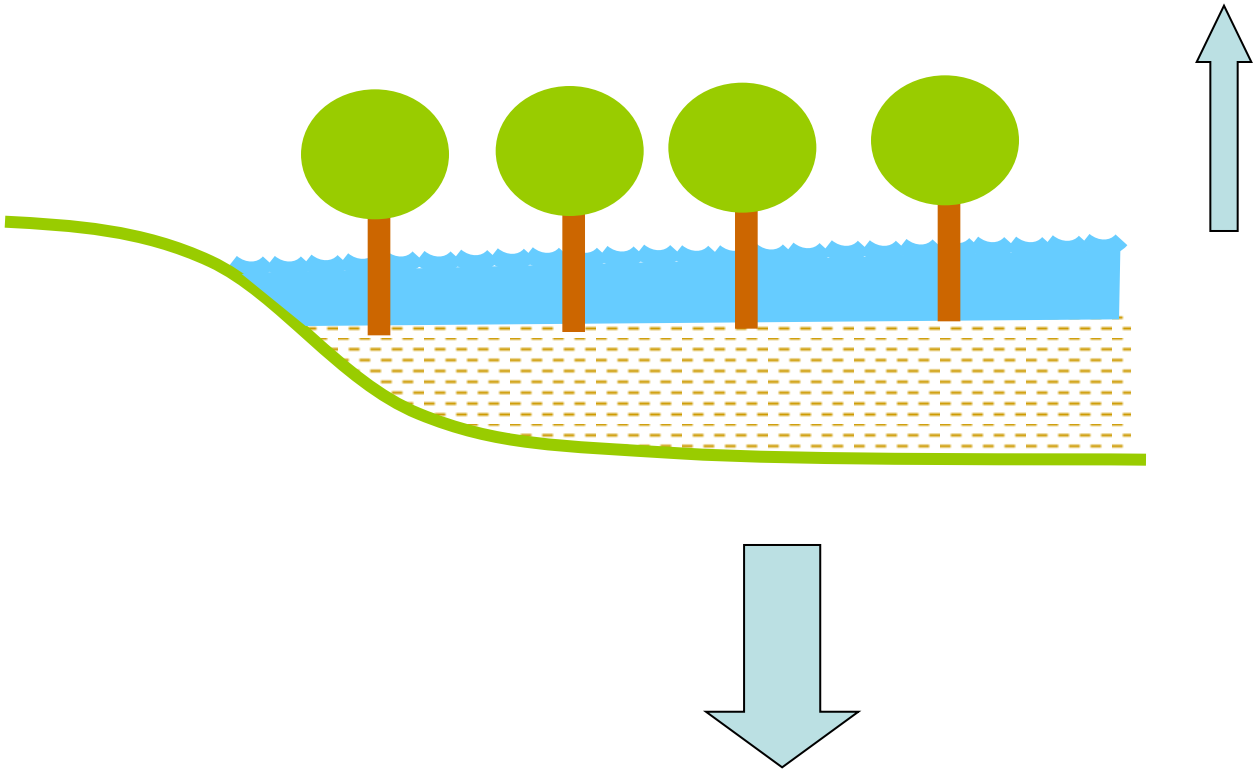
CARBÓN

A partir de restos vexetais

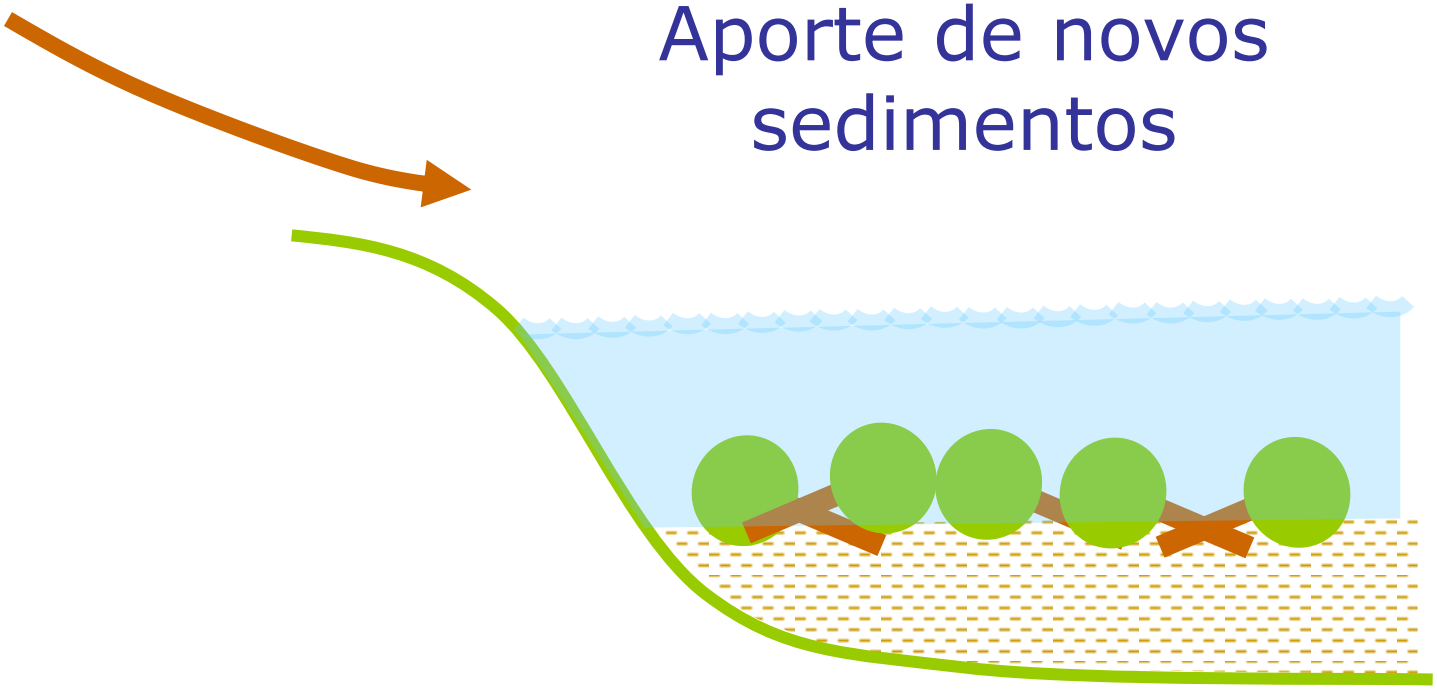




Desenvolvemento de vexetación palustre

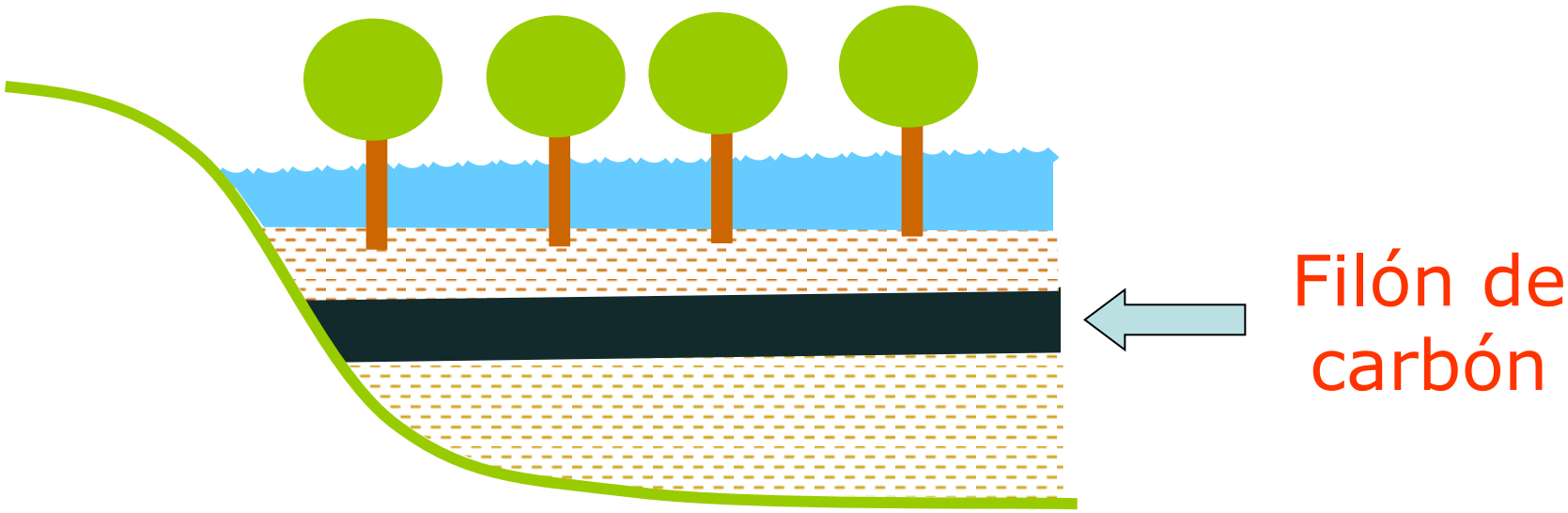


Asolagamento e fermentación anaeróbica

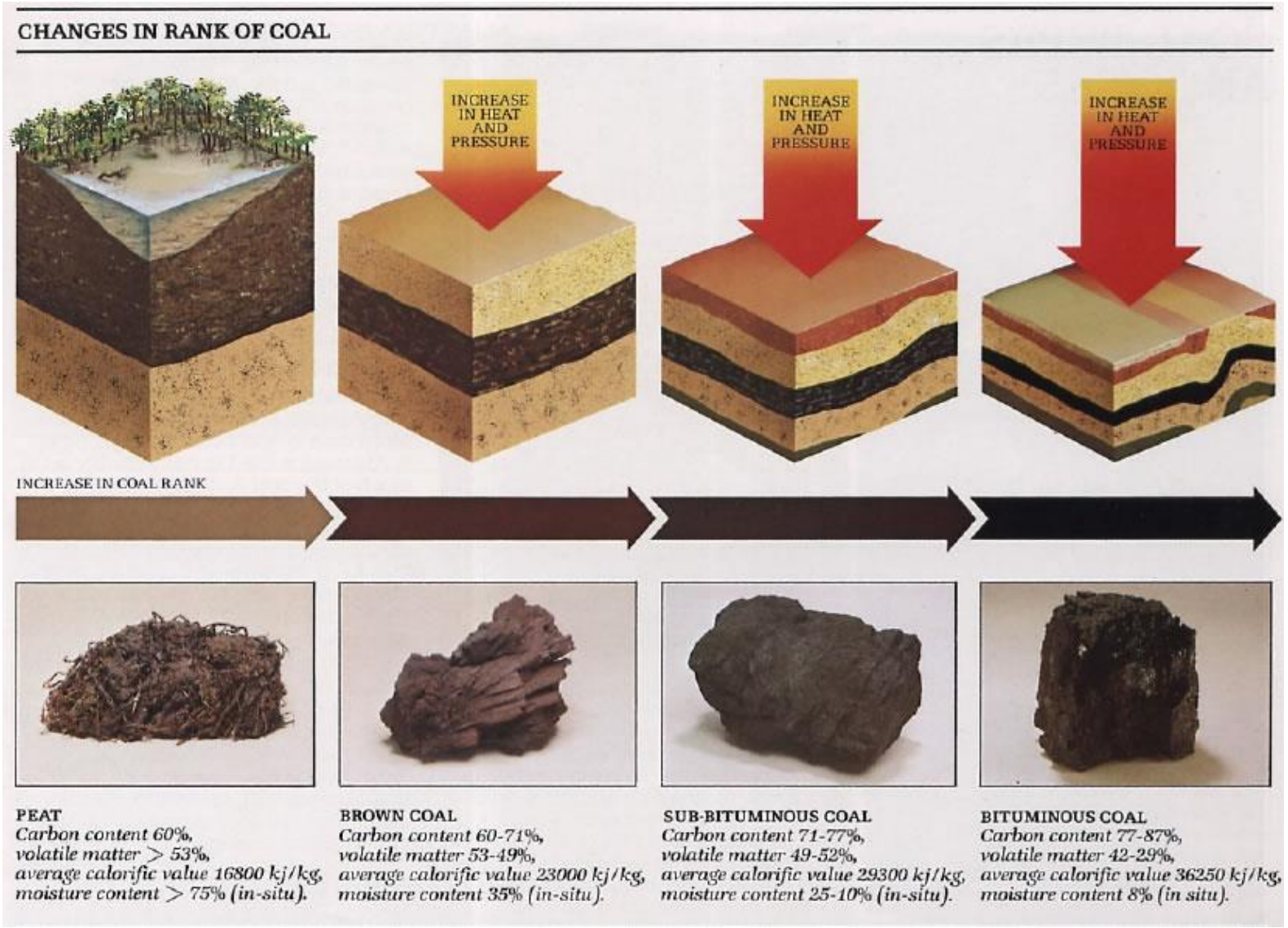


Compactación do carbón pola presión

Repetición do proceso



TIPOS DE CARBÓN

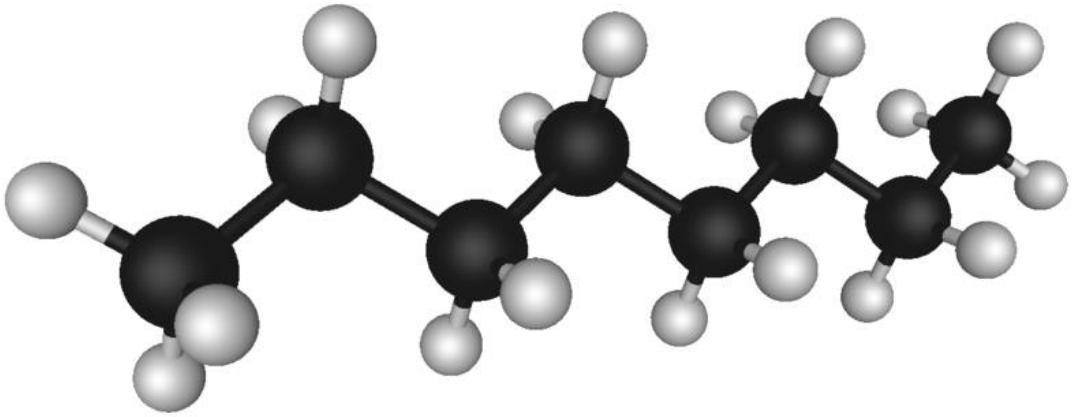


TURBA **LIGNITO** **HULLA** **ANTRACITA**

TURBA EN CORRUBEDO

LIGNITOS EN MEIRAMA

PETRÓLEO



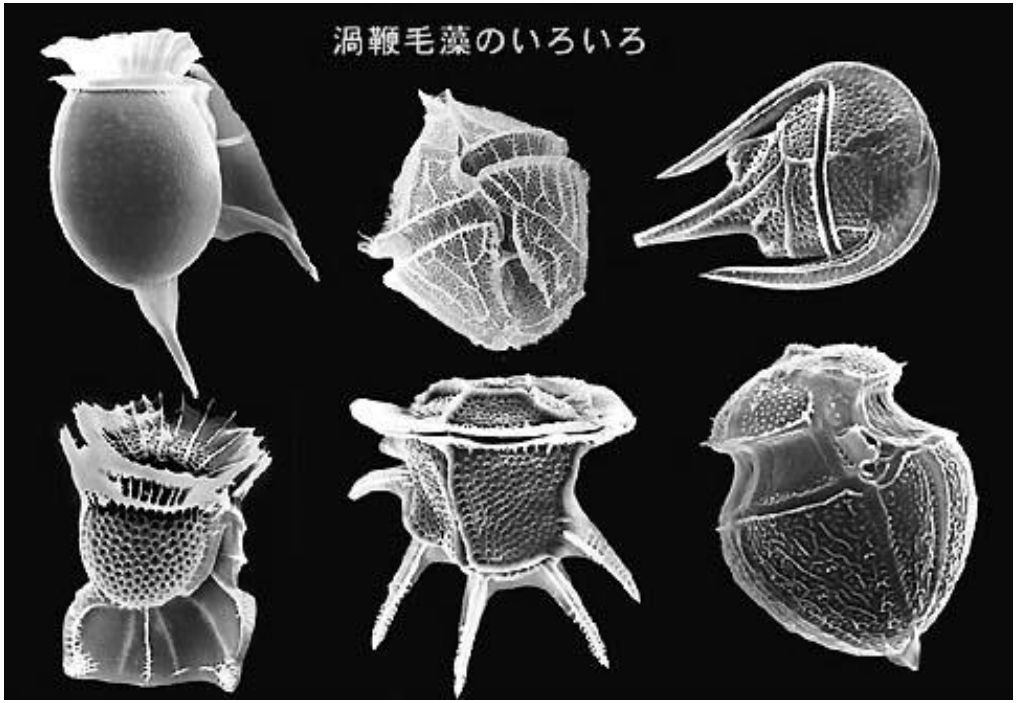
Mestura de hidrocarburos: sólidos, líquidos e gasosos

Petróleo

(del griego: πετρέλαιον, lit. «aceite de roca»)

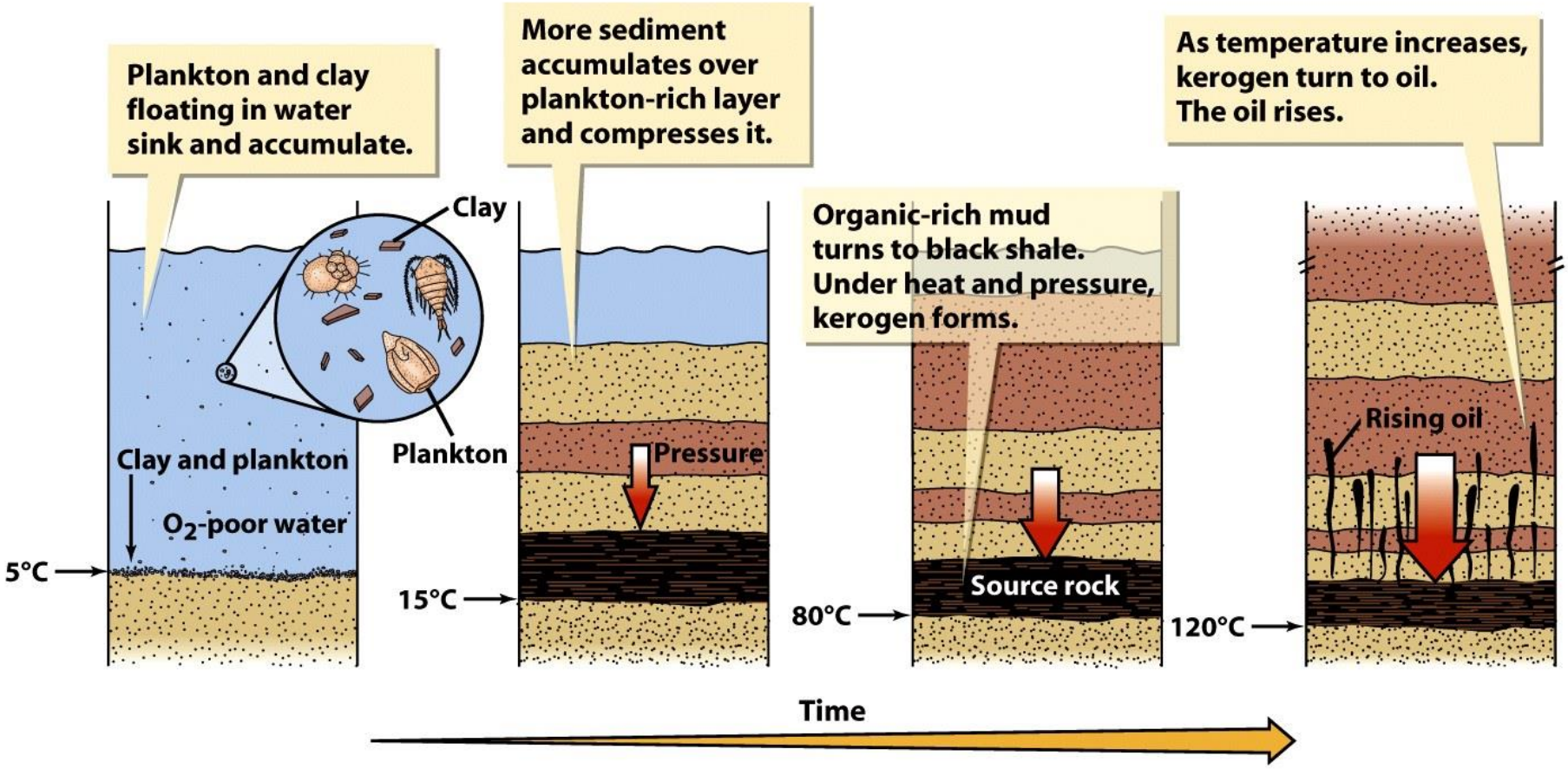
Petroleum has been used by humans for millennia, originally for fires and warfare. In the Middle East, oil fields were exploited for naptha, tar, and kerosene in the 8th to 12th centuries.

These early users depended on seeps (like this modern one), where petroleum rises naturally because of subsurface pressure.

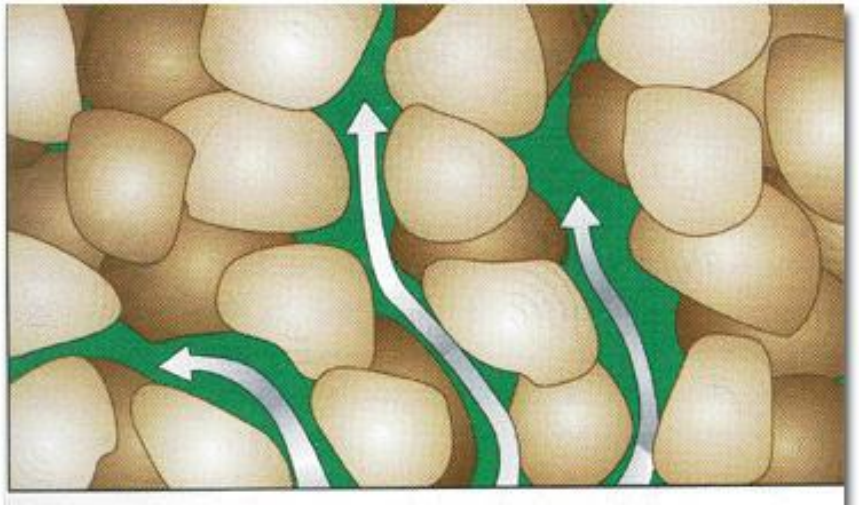


Plancton mariño

Fermentación – queróxeno Maduración



Maduración migración



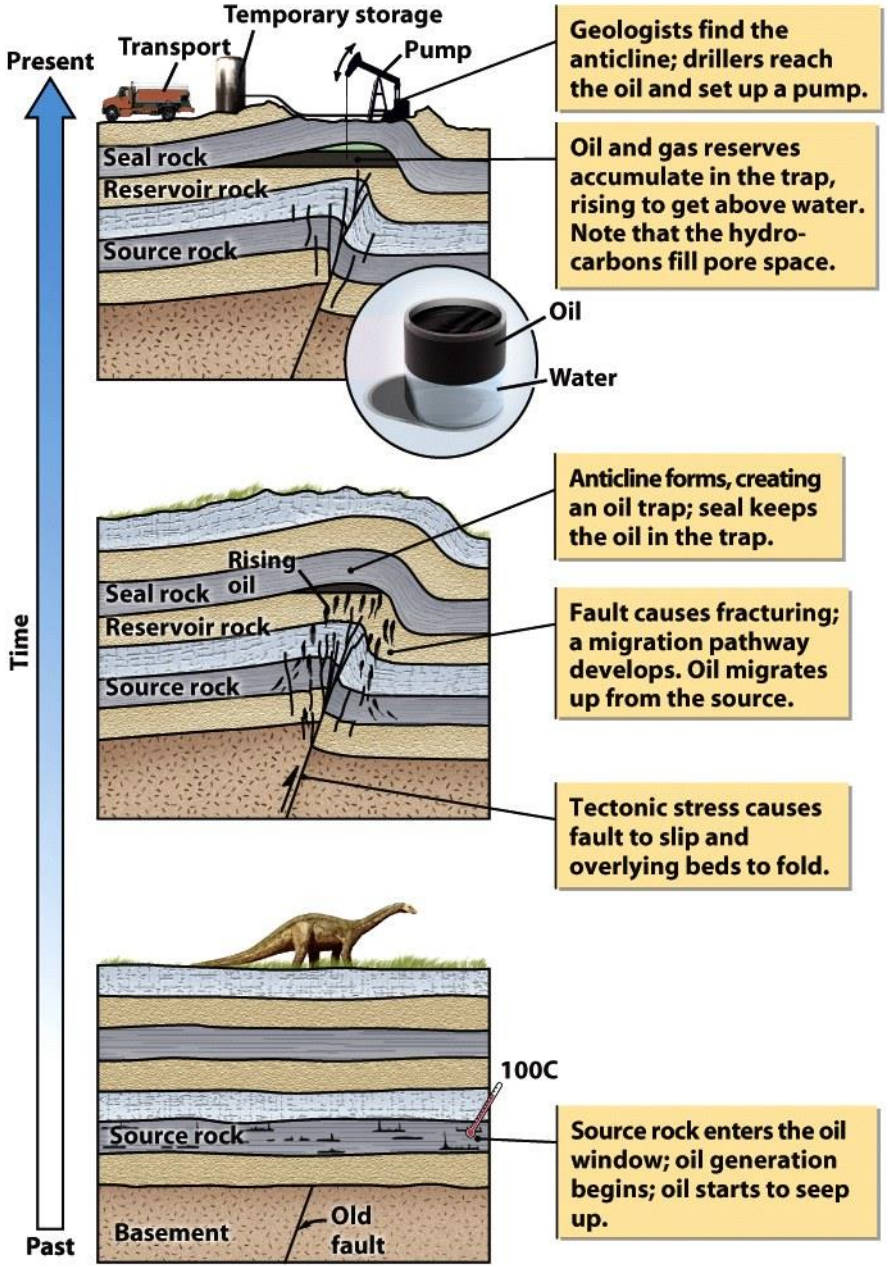


Figure 14-8 Earth: Portrait of a Planet 3/e

TRAMPA PETROLÍFERA

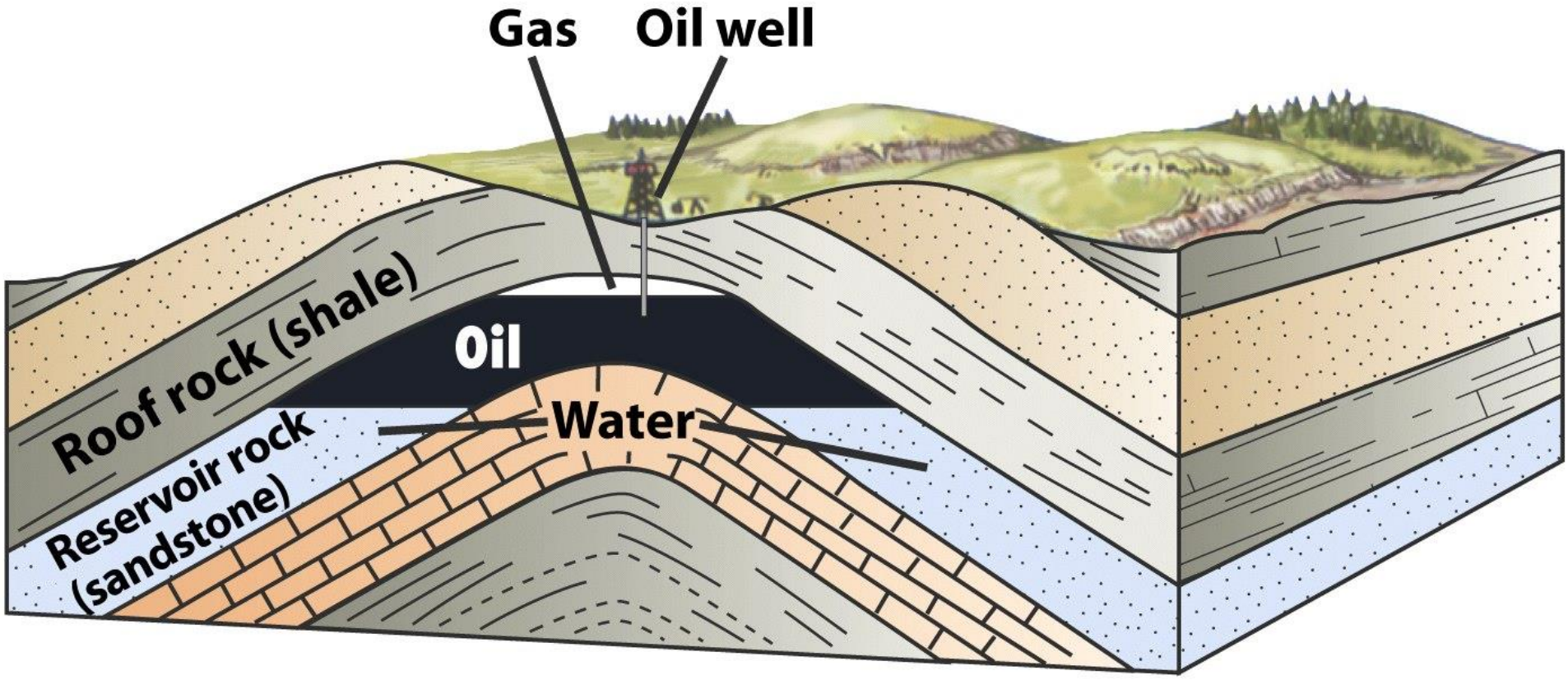
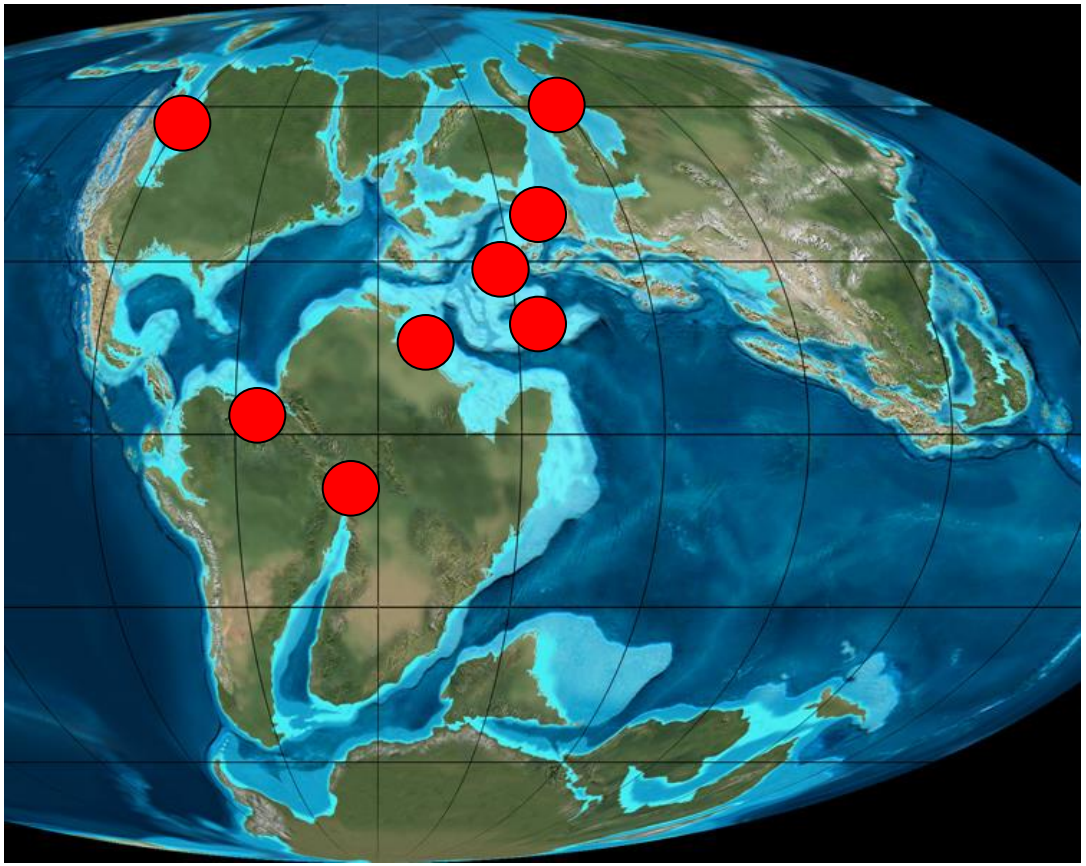


Figure 11-10 Environment, 5/e

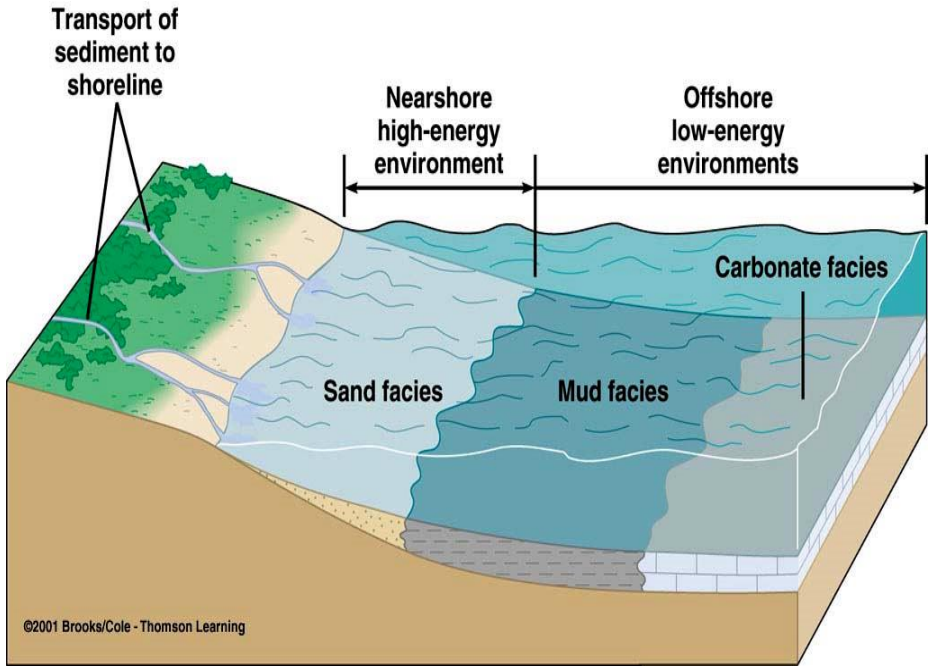
CONDICIÓNS ESPECIAIS



MESOZOICO
-150 m.a.

The world's main oil deposits all formed in warm shallow seas where plankton bloomed but bottom waters were deoxygenated

EXERCICIO PÁX 23



EXERCICIO

O debuxo representa unha zona costeira onde desembocan uns ríos. Nela están situadas tres zonas onde predominan tres tipos distintos de sedimentos: areosos, limo-arxilosos (barro) e carbonatados.

a) Xustifica esta distribución dos sedimentos.

b) Indica un tipo de rocha á que darían lugar cada un destes sedimentos

c) Como se chama o proceso polo que un sedimento se transforma nunha rocha sedimentaria. Explícao.

Exercicio 4 ABAU

4. **Responda dous dos tres apartados temáticos: (1 punto por apartado)**

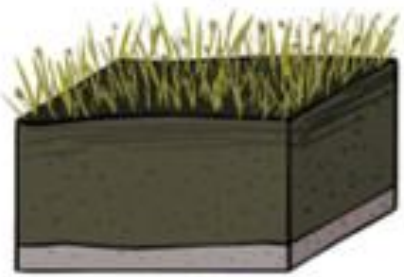
4.1. Explique que é a diaxénese e que procesos comprende.

4.2. Explique os criterios de clasificación das rochas sedimentarias.

4.3. Indiqueos tipos de carbón e as súas características.


BIOLOXÍA XEOLOXÍA
IES CORUXO
cm
0 1 2
cm

ambiente pantanoso



turba

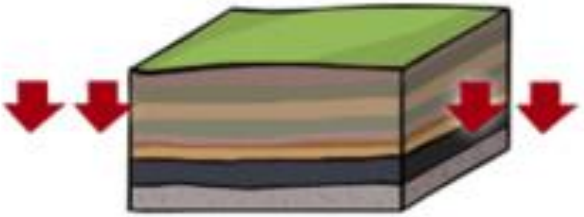
Material vegetal. Poco poder calorífico. 55% de porcentaje en carbono.

enterramento

lignito

Poder calorífico medio. 60% a 75% en carbono

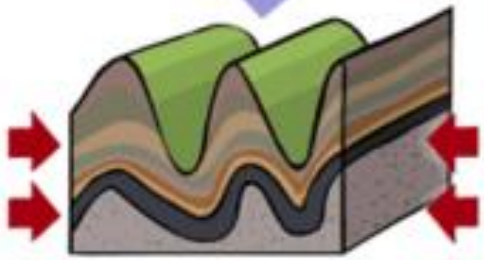
maior enterramento



hulla

Poder calorífico alto. 75% al 85% en carbono

metamorfismo



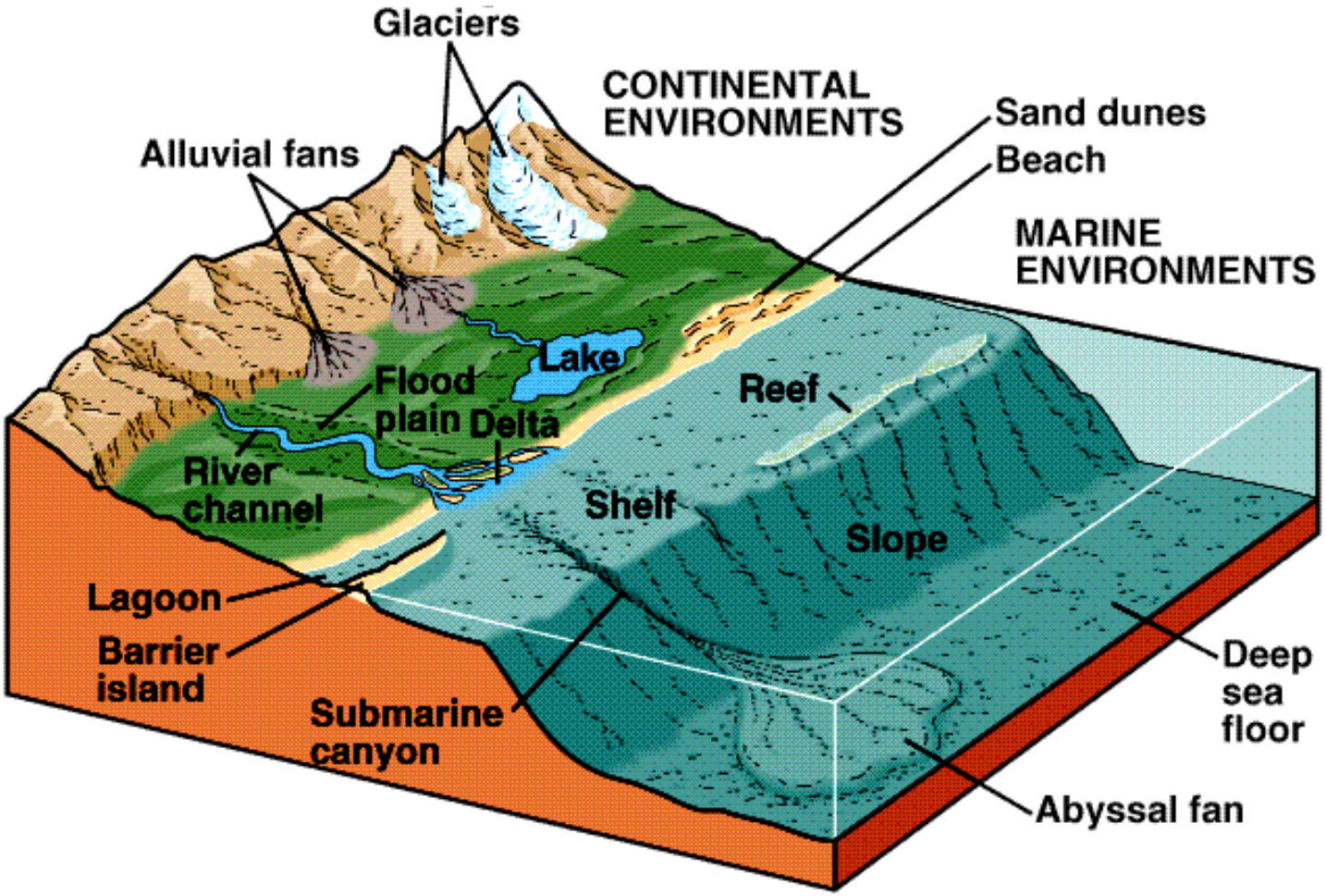
antracita

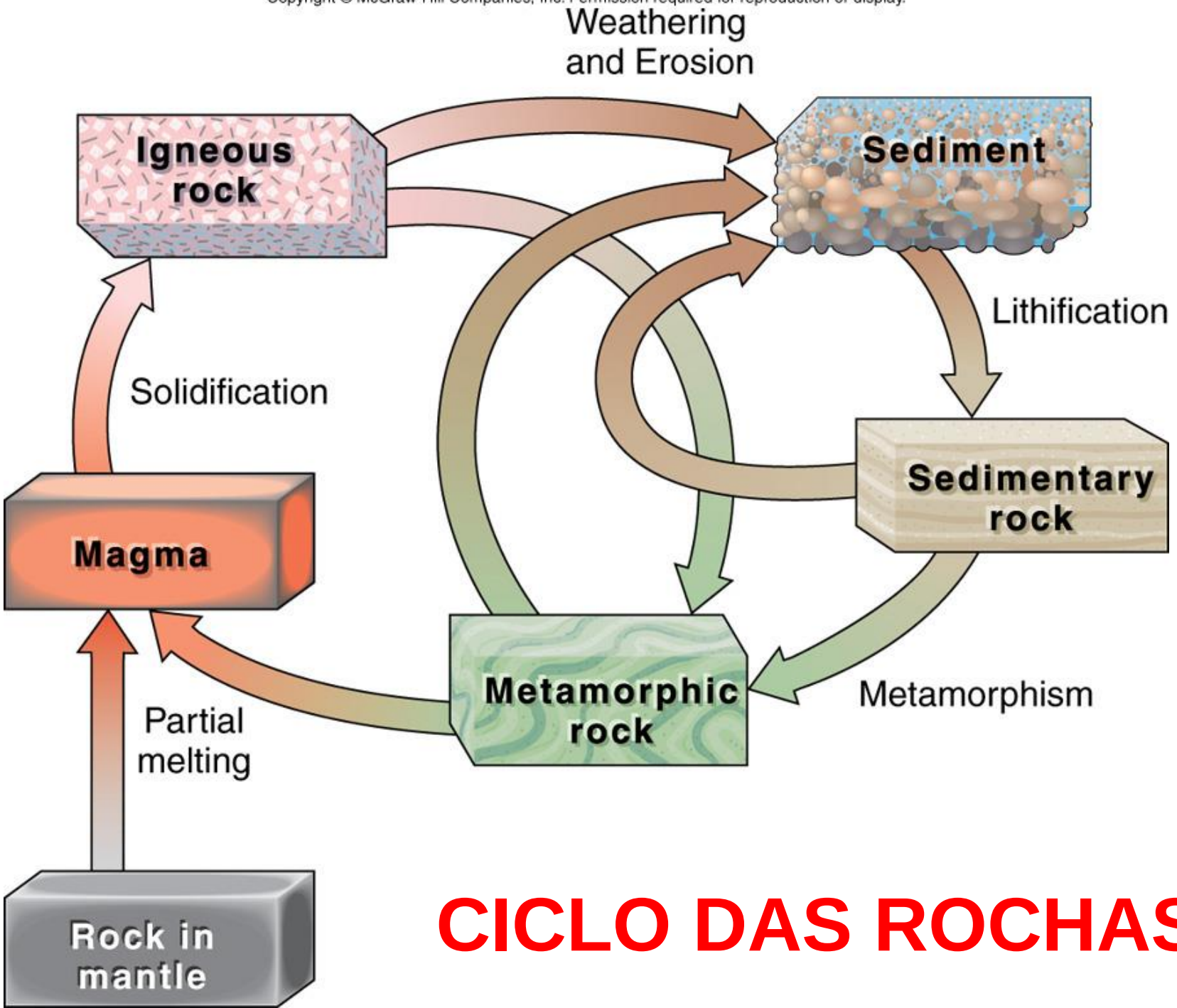
Carbón en roca duro. Alto poder calorífico. 95% en carbono

Por www.areaciencias.com

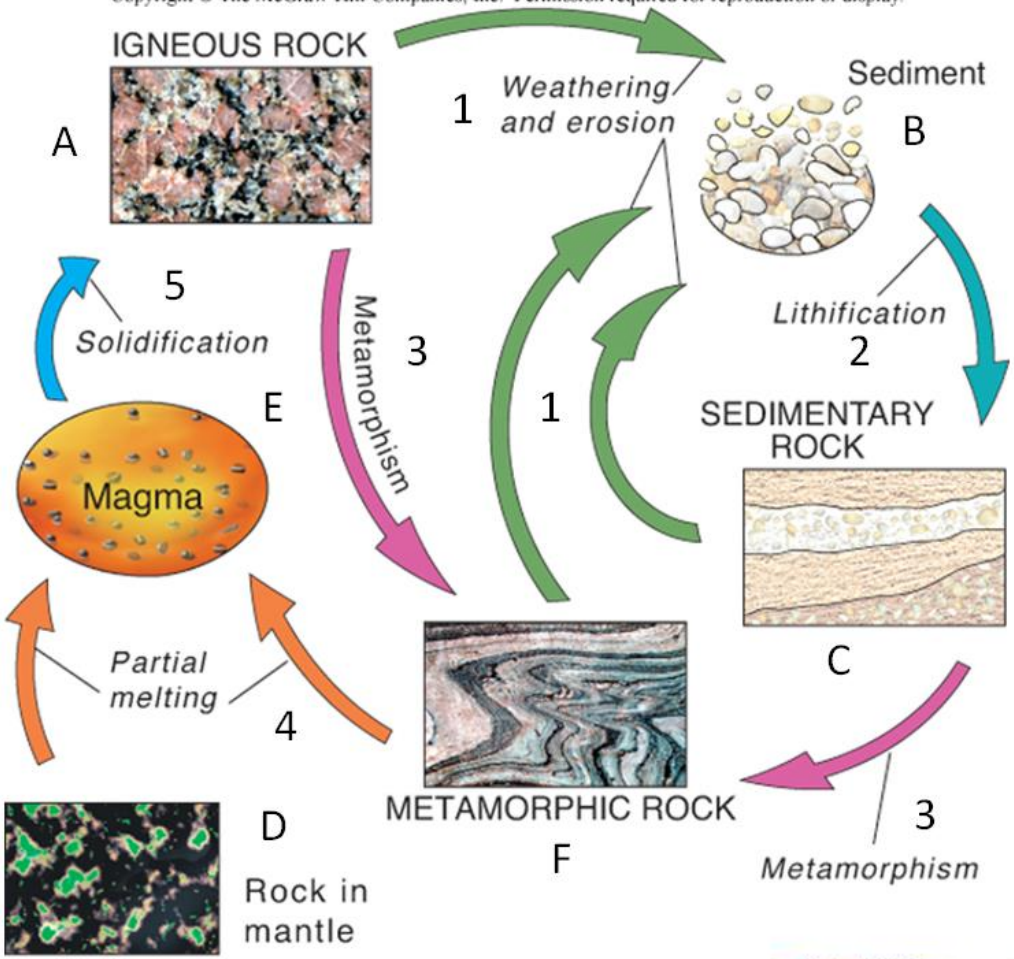
AMBIENTES SEDIMENTARIOS

- Continentais
- De transición
- Mariños





CICLO DAS ROCHAS



EXERCICIO PÁXINA 24

Define os procesos sinalados con números e os materiais sinalados con letras na figura do ciclo das rochas. Sitúa eses procesos e materiais no esquema inferior.