Survive the Five!

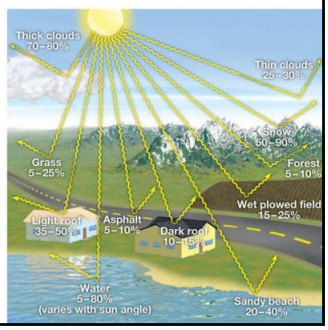
Unit 2 – Earth Systems

1

ST5

The surface will reflect a lot of the sun's radiation.

What does it mean to have a high albedo?

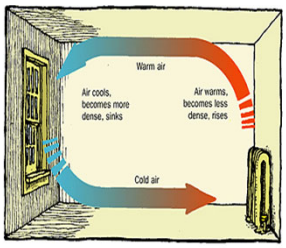


2

ST5

Warmer, less dense materials rise while cooler more dense materials sink.

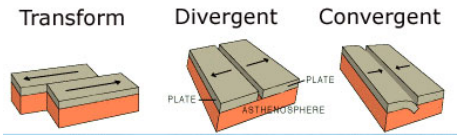
Explain a Convection Cell



3

ST5

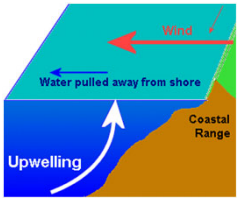
What are the three types of plate boundaries?
(with hand movements)



4

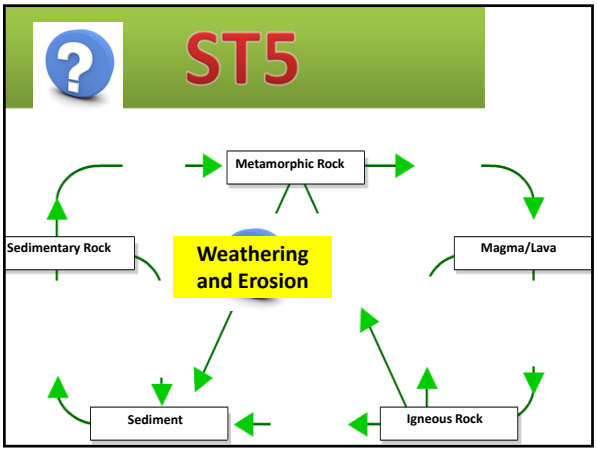
Drawing ST5

Diagram Upwelling



5

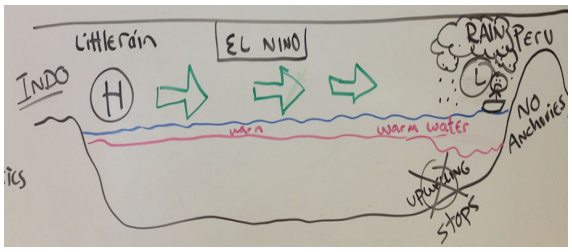
ST5



6

Drawing ST5

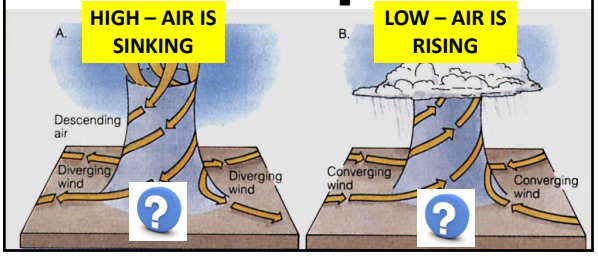
Diagram and Explain El Nino



7

ST5

Name the two pressures

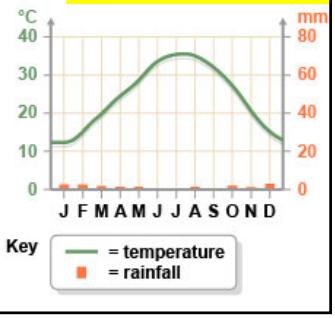


8

ST5

Desert – Very Little Rain, High Summer Temps, Low winter temps

What type of biome is this?

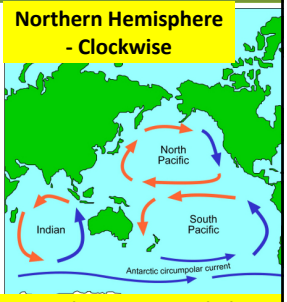


9

Drawing ST5

Show the direction that the gyres (surface currents) flow in both the northern and southern hemisphere

Northern Hemisphere - Clockwise



Southern Hemisphere – Counter clockwise

10

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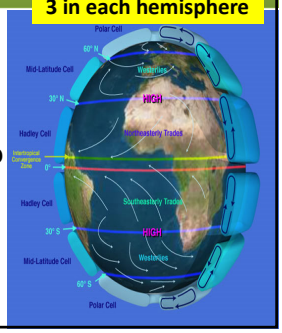
3 in each hemisphere

How many convections cells are their in each hemisphere?



11

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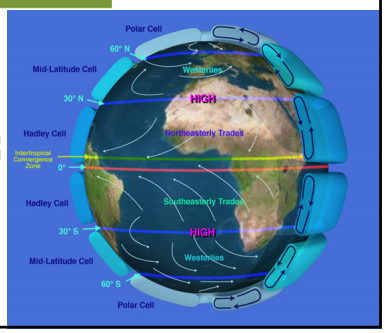
High Pressure = Sinking Air = Little Rainfall

Why are their deserts at 30°N and 30°S?

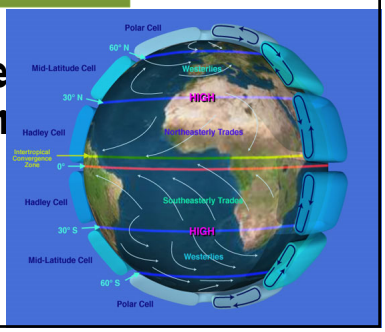


12

ST5

Low Pressure = Rising Air = Condensation and Rainfall

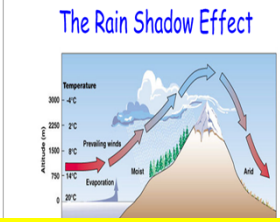
Why are the tropical rain forests at the equator?



13

Drawing ST5

Diagram and explain the Rain Shadow Effect



On Windward side the wind blows in from ocean with moisture – wind is forced upward by mountain – air cools and condenses – clouds and rain – dry conditions on the leeward side… called the Rain Shadow

14

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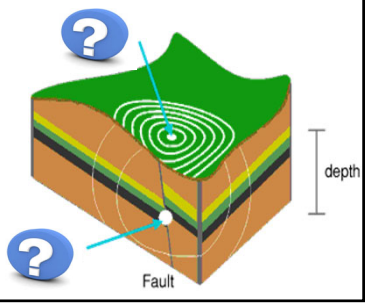
Identify the 2 question marks.



15

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It takes less energy to heat up soil than water. Soil will heat up and cool down faster.

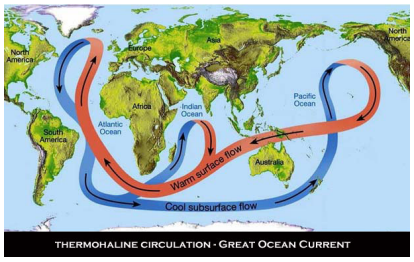
Explain what it means to say that soil has a lower specific heat than water.

16

ST5

- Water turns denser and colder at the Arctic, ice forms, salt gets left behind in the water and makes it more dens, water sinks.
- Water moves up and warms in both the Indian and pacific oceans.

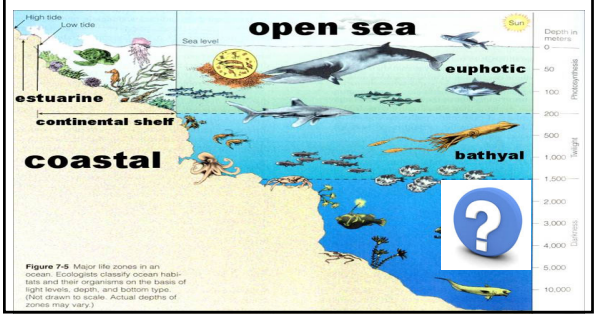
Explain Thermohaline Circulation



THERMOHALINE CIRCULATION - GREAT OCEAN CURRENT

17

ST5

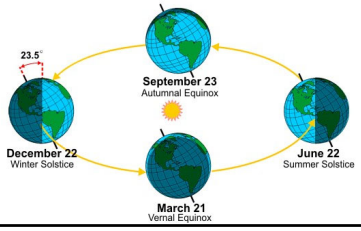


18

ST5

The earth is not tilted towards or away from the sun.

Explain why Sept 23 was neither Summer nor winter?



19

ST5

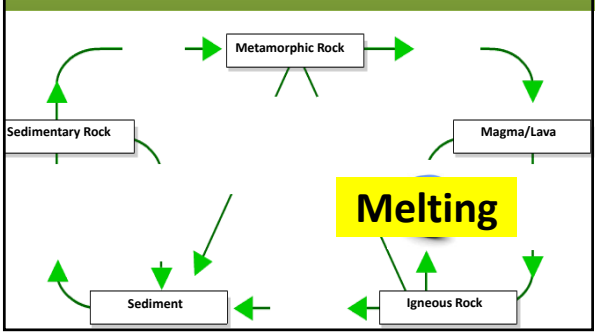
Weather is short term daily conditions
Climate is a long term pattern

Explain the difference between Weather and Climate.

Climate is what you expect.
Weather is what you get.

20

ST5

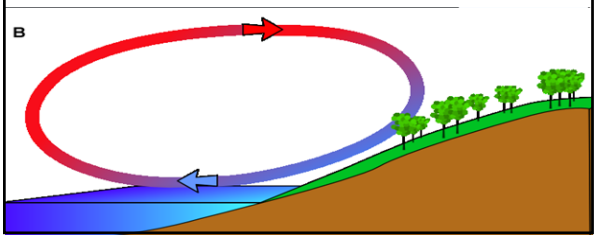


21

ST5

Night time- Land loses heat quickly because of its low specific heat. The water has a higher specific heat so it stays warmer. High pressure over water, low pressure over land creates and offshore breeze.

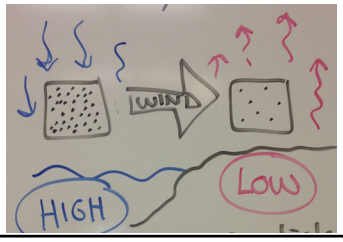
- **Identify the time of day**
- **Explain the mechanics of this convection cell**



22

Drawing ST5

Draw a picture of high density air and low density air and show wind flow.

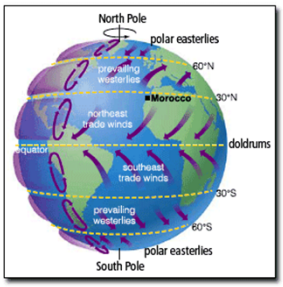


23

Drawing ST5

Draw the Coriolis effects on air flow moving both towards the equator and towards the poles.

- Air moving towards the EQUATOR is deflected WEST
- Air moving towards the POLES is deflected EAST



24

ST5

- Timing = P, S, Surface
- Destructive force = Surface, S, P
- P, S travel through the earth and Surface travels on the surface.
- P waves can go through liquid, S waves cannot.

What are the differences between P, S, and surface waves?

25

ST5

- Along plate boundaries

Where do most earth quakes and volcanoes occur?

26

ST5

- Predicts where natural hazards are likely to be found

Why is it helpful to record past plate movements in the lithosphere?

27

ST5

- Make maps of high risk areas
- Locate fault lines
- Improve location and timing of quakes
- Establish building better building codes

What are some ways to reduce earthquake hazards?

28

ST5

- Can melt rock and convert it into something else
- Is sedimentary rock becomes metamorphic

What impact can heat and pressure have on rock?

29

ST5

- Desert sand have a low specific heat and cannot hold warmth for very long

Why are nights so cold in the desert?

30

ST5

- US

Which country has the highest coal reserves?

31

ST5

- Divergent

What kind of boundary exists between the north American and Eurasian plates as they move apart?

32

ST5

- Stratosphere and increases UV ray absorption.

Where is the ozone layer located and what does it cause?

33

ST5

- Warm water cooling and sinking from the euphotic zone.

What is a thermohaline current?

34

ST5

- 60 degrees north and south where air pressure is sinking and there is little precip.

Where are grasslands generally located?

35

ST5

- It cools down and sinks before it gets there.

Why does air rising at the equator not reach the poles?

36

ST5

- weather

What do you call an areas short- term temp, precip and humidity?

37

ST5

- nekton

You're out fishing and you catch a sword fish… you would most likely classify this as a species.

38