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VASODILATION MECHANISM

shunt vessels constrict/close;
less blood flow through the shunt vessels;
arterioles dilate;
vasodilation;

more blood flow through the capillaries near the surface of the skin;
more heat loss by radiation;

LIMITING FACTOR DEFINITION

factor in/aspect of, the environment;
short supply;
restricts/prevents, a (named) process;

ARTERY ADAPTATIONS

thick wall;
withstands blood pressure;

muscular tissue;
vasoconstriction/vasodilation;

elastic tissue;
recoils to maintain blood pressure/smoothes out blood flow;

small lumen;
maintains blood pressure;

fibrous tissue;
maintains shape/prevents bursting;

HOW FOOD IS MOVED THROUGH G.I. TRACK AND PERISTALSIS MECHANISM

peristalsis;
circular muscles contract;
muscle contraction above food pushes it forward;
circular and longitudinal muscles work antagonistically;

STRUCTURAL FEATURES OF NEMATODES

thread-like bodies/filamentous/filament-like;
unsegmented body;
hydrostatic skeleton;
body, tapers/is pointed at, one/both, ends;
through gut/mouth and anus;
relatively large pharynx/sucking mouthparts;

WHY FOOD WEBS ARE BETTER THAN FOOD CHAINS

shows complex feeding relationships;
all organisms in the ecosystem;
each species has more than one food source;
each species has more than one predator;
AVP= shows possible chain reaction to an animal's population change;

HOW CRABS WHO LIVE AT GREAT DEPTHS EVOLVED TO BE WHITE

idea that at the bottom of the sea, predators/prey, unable to see;
camouflage is not needed;
no need to make pigment;
less energy needed;

mutation/change in DNA;
so no pigment made;
white crabs, survive and reproduce;
pass on their genes/alleles;
ref. to natural selection;

PRESENCE OF STARCH IN LEAVES GROWN IN SHADE AND DIRECT SUNLIGHT

leaves from the same plant;
at least three leaves from sun and three leaves from shade;
boil/heat in water;
heat in ethanol;
rinse leaf;
spread on a white tile;
add iodine solution;
positive test gives a blue-black color;

detail of controlled variable = heated for same length of time/same volume or
concentration of iodine solution/leaves picked at same time;

HOW LEAF AREA AFFECTS WATER UPTAKE IN CELERY USING DYE

measure distance travelled up the stick;
add dye to water;
time started;
change the number of leaves on the celery;
measure the area of leaves;
need to control temperature/humidity/wind speed;
repeats;
prediction;

UPPER OR LOWER SURFACE OF LEAF AND EVAPORATION

APPARATUS GIVEN IN QUESTION:

scissors
two clamps and stands
ball of string
leaves (4 pictured)
petroleum jelly
balance
timer

MARK SCHEME:

use of control for the experiment;
weigh mass of leaves at beginning *with petroleum jelly applied*;
weigh leaf at the end;
for a set period of time;
describe a named controlled variable;
repeat experiment;

HOW TO FIND VASCULAR BUNDLES IN A STEM USING A DYE/STAIN

use of any suitable plant material;
put stem/material chosen, in (red) dye/ add dye to cut stem surface;
time for absorption of dye;
cut sections of stem or material chosen;
red stained xylem will indicate the position of vascular bundle;
(RED DYE IS COMMONLY USED TO STAIN LIGNIN IN XYLEM VESSELS)

CONTROL VARIABLES IN WATER LOSS EXPERIMENTS

temperature;
wind speed/air movement;
light intensity;
light wavelength;
time in the light;
humidity;
age of leaf;
species of plant;
carbon dioxide concentration;
surface area of leaf;
water supply to plant/leaf;

EXPERIMENT TO SEE HOW TEMPERATURE AFFECTS WATER UPTAKE BY PLANTS

idea of at least three temperatures tested;
suitable range of temperatures tested;
control variable = light intensity/wind/height or volume of water/humidity;

method of measuring rate of water uptake;
repeat for reliability;

WHY YOU MIGHT USE %CHANGE

starting value of ____ is not the same;
to be able to compare data;

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