

ÜDS

READING

for ÜDS

Fen Bilimleri-2



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What is the Difference Between 'biodegradable' and 'degradable' Plastics?

Degradation is a process whereby very large molecules are broken into smaller molecules or fragments. Normally, oxygen is incorporated into these molecular fragments. Typically, strong, tough plastic films become weak and brittle as a result of oxidative degradation. This outcome is because the molecules of which the films consist become much smaller. Degradation can be caused by heat, or exposure to UV light and is enhanced by mechanical stress.

Biodegradation is the process by which microorganisms (microbes such as bacteria, fungi or algae) convert materials into biomass, carbon dioxide and water. Biomass is a general term used to refer to the cells of the microorganisms that are using the material as a carbon source to grow on.

“Degradable Plastic: a plastic designed to undergo a significant change in its chemical structure under specific environmental conditions resulting in a loss of some properties that may vary as measured by standard test methods appropriate to the plastic and the application in a period of time that determines its classification.” [ASTM D883-99] – American Society for Testing and Materials.

When degradable plastics break down into smaller molecules, eventually they will be small enough to be consumed by microorganisms and so biodegradation occurs. In essence then, all degradable polymers need to eventually biodegrade and so should be tested for 'biodegradability' than just 'degradability'.

VOCABULARY

degradation	parçalanma
process	süreç
whereby	sayesinde (Rcl Bağlaç)
break into	parçalamak
fragment	parça
incorporate <i>stg</i> into <i>stg</i>	dahil etmek birleştirmek
typically	tipik tarzda
strong	güçlü
tough	sağlam, dayanıklı
weak	zayıf
brittle	kırılgan
as a result of	... sonucu olarak
outcome	sonuç
consist of	-den oluşmak
be caused by	...sebebe olunan
exposure to	...maruz kalma
enhance	geliştirmek
convert <i>stg</i> into <i>stg</i>	dönüştürmek
refer to	atıfta bulunmak
source	kaynak
grow	büyümek
undergo	geçirmek
significant	önemli
environmental	çevresel
condition	durum, koşul
result in	ile sonuçlanmak
loss	kayıp
property	özellik
vary	değişmek
measure	ölçmek
appropriate	uygun
application	uygulama, başvuru
determine	bilirlemek
classification	sınıflandırma
break down	parçala(n)mak
eventually	sonunda
consume	tüketmek
in essence	gerçekte

Development of Gravitational Theory

Newton argued that the movements of celestial bodies and the free fall of objects on Earth are determined by the same force. The classical Greek philosophers, on the other hand, did not consider the celestial bodies to be affected by gravity, because the bodies were observed to follow perpetually repeating non descending trajectories in the sky. Thus, Aristotle considered that each heavenly body followed a particular “natural” motion, unaffected by external causes or agents. Aristotle also believed that massive earthly objects possess a natural tendency to move toward the Earth's centre. Those Aristotelian concepts prevailed for centuries along with two others: that a body moving at constant speed requires continuous force acting on it and that force must be applied by contact rather than interaction at a distance. These ideas were generally held until the 16th and early 17th centuries, thereby impeding an understanding of the true principles of motion and precluding the development of ideas about universal gravitation. This impasse began to change with several scientific contributions to the problem of earthly and celestial motion, which in turn set the stage for Newton's later gravitational theory.

VOCABULARY

argue that	ileri sürmek
celestial	göksel,gök sızmi
force	güç,zorlamak
on the other hand	öte yandan
consider	düşünmek
affect	etkilemek (effect : etki)
gravity	yer çekimi,ağırlık
observe	gözlemek
follow	izlemek
perpetually	daimi olarak
repeat	tekrar etmek
descend	alçalmak,azalmak (ascend :yükselmek,artmak)
trajectory	yörünge
thus	böylece,bu nedenle
heavenly	göksel
motion	hareket
external	dış (internal :iç)
massive	ağır
earthly	dünyaya ait,olanaklı
possess	sahip olmak (=own=have)
tendency	eğilim (tend to:eğilimli olmak)
concept	kavram,anlayış
prevail	yaygın olmak
constant	devamlı sahip
act on	----- bağlı hareket etmek
apply	uygulamak
contact	temas
rather than	-den ziyade
interaction	etkileşim
distance	uzaklık
thereby	böylece,o yolla
impede	engel olmak
preclude	engel olmak
impasse	açmaz,çıkamaz
contribution to	katkı (contribute to :katkıda bulunmak)
in turn	sırası ile

Extinction

In biology, extinction the dying out or termination of a race or species. Extinction occurs when a species can no longer reproduce at replacement levels. Most extinctions are thought to have resulted from environmental changes that affected the species in either of two ways. The doomed species might not have been able to adapt to the changed environment and thus perished without descendants; or it may have adapted but, in the process, may have evolved into a distinctly new species. The effect of humans on the environment, through hunting, collecting, and habitat destruction, has become a significant factor in plant and animal extinctions.

Although extinction is an ongoing feature of the Earth's flora and fauna (the vast majority of species ever to have lived are extinct), the fossil record reveals the occurrence of a number of mass extinctions, each involving the demise of vast numbers of species. One such mass extinction occurred at the end of the Cretaceous period, some 66,000,000 years ago, when the dinosaurs and much of the marine life of the day perished. Evidence points to the impact of an asteroid hitting the Earth as the cause of the Cretaceous extinctions. It is suspected that catastrophic events—such as an asteroid impact—may have triggered other mass extinctions as well. In fact, mass extinctions appear to have taken place approximately every 26,000,000 years, which has led some paleontologists to propose that a cyclical cosmic event causes these periodic die-offs.

VOCABULARY

extinction	yok olma
die out	yok olmak
termination	sonlanma
race	ırk
species	tür
occur	meydana gelmek
no longer	artık değil (no more)
reproduce	üremek
replacement	ikame,yedek
result from	--den kaynaklanmak
environmental	çevresel
affect	etkilemek
doom	ölüm, feci akibet
adapt to	uyum sağlamak,uyarlamak
perish	telef olmak/etmek
descendant	soyundan gelen
distinct	farklı
habitat	mesken,yaşanan yer
destruction	yıkım (X construction :yapım)
significant	önemli
ongoing	devam eden (go on :devam etmek)
feature	özellik
vast	geniş
majority	çoğunluk (minority :azınlık)
extinct	yok olmuş
reveal	açıklamak,ortaya koymak
occurrence	olay
involve	içermek gerektirmek
demise	ölüm
at the end of	sonunda (!! in the end : nihayetinde)
evidence	kanıt
impact	etki (= influence =effect)
suspect	şüphelenmek
catastrophic	feci, çok kötü sonuçlanan
event	olay
trigger	tetiklemek
appear	görünmek (X disappear=vanish : yok olmak)
take place	olmak,meydana gelmek
approximately	yaklaşık (nearly=practically=virtually)
propose	teklif etmek sunmak
cynical	olumsuz
die-off	ölüm