NOTES: OCEAN ECOLOGY AND ENERGY TRANSFER NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hr\_\_

# **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**- the study of how organisms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with each other and the environment

# What is an ecosystem?

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – all the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ factors in a particular environment

# **Biotic**- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# **Abiotic**- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, etc.)

# What are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (jobs organisms have) in ecosystems?

# **Primary** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ source of food in the ecosystem

# All other life \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on primary \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# they have the greatest \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the community

# the greatest amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is found in the producers

# **Primary** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# get their energy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the primary producers by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# get their energy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by living \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with them

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **order** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# prey on the primary consumers and in turn are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by other animals

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **order** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# eat other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but are rarely \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by other creatures

# have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ biomass in the community

# have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in their tissues

# What are the 2 main categories of marine ecosystems?

# Powered by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy source)

# Occurs in the top 2 ocean zones—the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fully penetrates the epipelagic, but only dimly lights the mesopelagic

# The presence of sunlight allows for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# The bottom of the food chain is therefore \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, microscopic organisms that can do \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

# Powered by Earth’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy source)

# Occurs in the bottom 3 ocean zones – the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ penetrates at all

# No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is possible

# No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can grow here

# No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can grow here, but there is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, microscopic organisms that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# The bottom of the food chain is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# *Image result for ocean layers*

# What are the Symbiotic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **beneficial**- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ species benefit

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - 1 species \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and the other is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (or doesn’t care)

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – 1 species \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, but the other is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# How is energy flow diagramed?

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - a simple diagram showing how a single chain of organisms pass their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into each other

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# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - a complex diagram showing the many ways \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ flows between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - a diagram that shows amounts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ numbers in an ecosystem

# The bottom of the pyramid is wide because

# the lowest trophic level has the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# the lowest trophic level has the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# the pyramid gets thinner as it rises showing

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ populations

# energy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with every level jump

# the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ level is smallest because

# it has the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# it has the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_