

# Alien STINGERS

use this sheet to assist you in exploring the amazing world of cnidarians in our Alien Stingers exhibit.

exhibit exploration

Name of explorer: .....

## STING-O-METER

Cnidarians have special cells called cnidocytes, which contain harpoon-like stingers called nematocysts. There are three functional types of nematocysts: glutinant (sticky glue), volvent (tiny threads), penetrant (toxins). Check out the sting-o-meter and the graphics to answer the following questions.

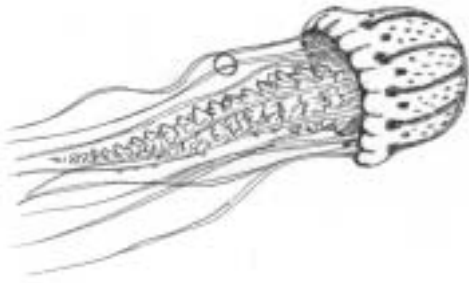
1. Which species has the most deadly stinging cells?

\_\_\_\_\_

2. What animal has the lowest sting intensity? (It feels something like your fingers after you've touched sticky candies.)

\_\_\_\_\_

3. Ammunition has a high cost! Like an arrow, once a nematocyst is fired it's lost. It takes about 70% of the energy from a meal to replace the lost stingers with new ones. Try some math... If an anemone ate 200 calories of fish, how many calories would it use to make new nematocysts? \_\_\_\_\_ What if it consumed 1,345 calories? \_\_\_\_\_



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4. Stinging is an important adaptation for survival. Name two ways stinging cells help cnidarians:

\_\_\_\_\_

and

\_\_\_\_\_

5. All cnidarians capture food by chance--they take prey that happens to brush against their tentacles. How might predation differ among species?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Cnidarians have a sac-like body with a central mouth. Food is digested inside the digestive sac by enzymes in much the same way as occurs in your system. However, the mouth is the only opening in a cnidarian. Where do you think the solid waste is eliminated?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. Look at the aggregating anemones. Why does one colony sting another?

\_\_\_\_\_

8. Jellies are almost transparent. How could invisibility help an animal survive?

\_\_\_\_\_

## WHY STING?

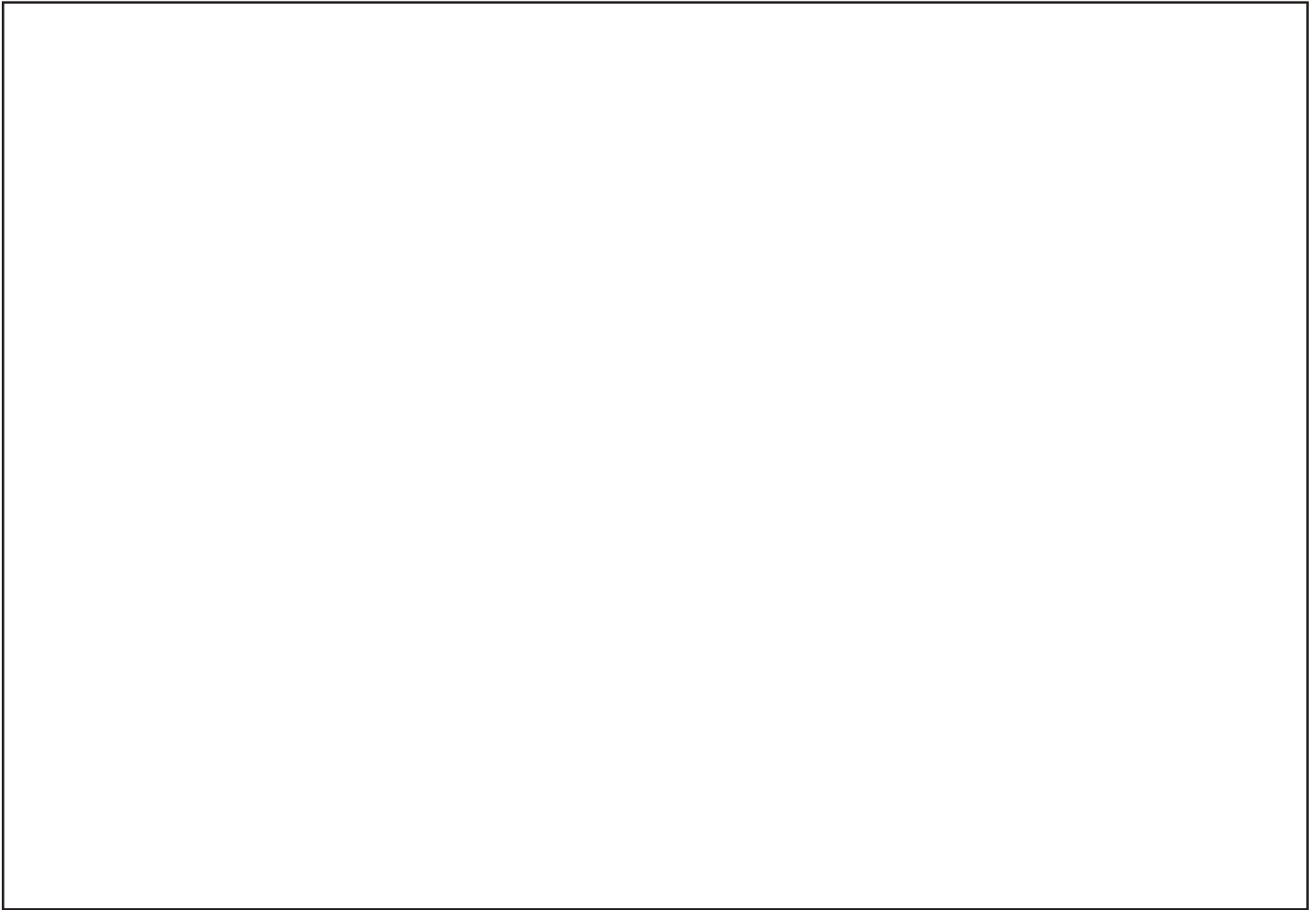


## WHERE ARE THEY?



## MAKING MORE

9. Check out the moon jelly's life cycle. Most jellies have separate sexes, and their life cycle includes both sexual and asexual reproductive phases. In the sexual phase of the moon jelly, the male produces sperm, which swim out of the male's mouth and into the female's mouth and digestive sac. The sperm fertilize the eggs in the ovary. Draw and label the main stages of development.



10. In the North Atlantic and other temperate seas, why don't you usually see jellies in the winter? (Think about their life cycle.)

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Look at the variety of shapes, colors, sizes, and body composition of cnidarians—from a single floating jelly blob to a stony underwater city with millions of coral polyps.

## SAME GROUP!

11. Carefully look at an anemone, a sea jelly, and a coral. Why are they in the same group, or phylum? Read the graphics and list three common characteristics:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



12. Do you notice any differences among the animals in this phylum? Fill in the chart.

ANIMAL	Shape	Orientation of Mouth	Mobility	Skeleton
Coral				
Jelly				
Anemone				

13. On your way to the next room, stop at the predator/prey sculpture on the wall. Can you name two animals that eat jellies? Do you think humans are predators of jellies?

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*You have successfully completed a tour of the first exhibit hall. Enjoy the rest of the exhibit--there's a lot more to see!*