

Albuquerque Aquarium
Rio Grande Botanic Garden
**Information &
Activity Packet**

Grades 6-12

Albuquerque Biological Park
EDUCATION

*Group Leaders: Please feel free to copy the information
and activities for your entire group.*

2601 Central NW * Albuquerque, NM 87104 * (505) 764-6200



ALBUQUERQUE BIOLOGICAL PARK

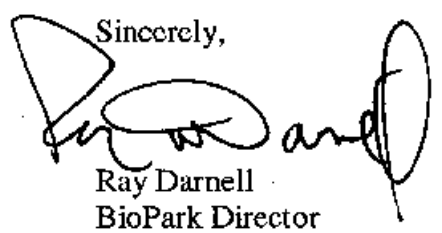
Dear Teacher:

Thank you for your interest in the Albuquerque BioPark's Rio Grande Zoo, Albuquerque Aquarium and Rio Grande Botanic Garden as educational resources.

We welcome your visit and want to help you make the most of our facilities. Enclosed you will find educational materials that you are free to copy and distribute to your students for their use while you are on the grounds. If you have questions or would like additional information on other resources in BioPark Education, please call either Zoo Education at 764-6214 or Aquarium/Botanic Garden Education at 848-7180. If you have any other questions regarding your trip, please call the Reservation Clerk at 764-6200.

Again, thank you for your interest in the City of Albuquerque's BioPark.

Sincerely,



Ray Darnell
BioPark Director



Bill V. Aragon
BioPark Education Curator



CHAPERONE GUIDE

On behalf of the staff at the Albuquerque BioPark's Rio Grande Botanic Garden and Albuquerque Aquarium, thank you for your support during your child's field trip. Please abide by all the instructions given to you by your child's teacher.

Some specific pointers to enhance your visit to the aquarium and botanic garden:

If you are allowed to take a small group independently of the whole class, get to know the children's names. Make sure they know who you are and understand that they must stay with you at all times. Children learn best when they are in a safe environment, and they will feel most safe if you, the adult in charge, stay with them. It is very important that the children respect each other, the adults in their group, the other visitors to the aquarium and botanic garden and of course the animals and plants during the visit. Remind them to treat the animals and plants with the same respect they like to have.

Students are generally very excited on field trips. They often have a tendency to move too fast, and the result is they miss lots of interesting things. Try to slow them down through the exhibits. Focus their energy by asking them observation questions about the animals and plants they see. Get them to sit down quietly and watch animals in the aquarium when possible. Explain that many animals need to be camouflaged in their environment and encourage them to try to find as many animals as possible in all exhibits. The botanic garden is also a great place to sit down and make observations. Have students look for as many different plants as possible and watch for pollinators, like bees and butterflies, visiting flowers in the garden.

Some questions to stimulate thinking and discussion:



Aquarium:

What would it be like for this fish in the ocean? What kind of food do you think this animal eats in the wild? How does this fish find its food?

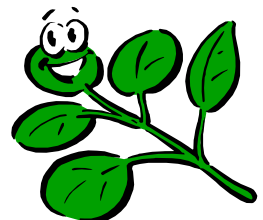
Garden:

How does this plant get its water, sunlight and air? What does this plant do to survive in the wild? How might animals depend on this plant?

Safety of students and animals and plants

Please make sure that the students know that we ask that no one tap on the glass in the aquarium. It is very loud for the fish inside the tanks! It is important that no one put their hands in the water of the Shallows and Shores exhibit. Tell your group that this is the animals' only home and they need to feel safe here. Children love to climb; however, there are places at the aquarium and garden where climbing can be dangerous. In the garden, students must remain on the paths. The flowers are here for all visitors to enjoy; and they can be touched and smelled, but not picked. Remind the students that they need to be aware of how their behavior affects each other, the animals and the other visitors.

Leaving the aquarium and botanic garden with a souvenir can extend the child's experience, but remember that gift shop visits by school groups must be supervised. The Albuquerque Aquarium and Rio Grande Botanic Garden are great places to learn. Thank you for helping make your group's experience a great one!



BIOPARK GROUP ADMISSION INFORMATION

GROUP REQUIREMENTS

A chaperone ratio of 1 adult for every 5 students is required. Your group will be charged according to the total number you arrive with, not the number your reservation was made for. Reservations are only scheduled Monday through Friday.

GROUPS MUST ENTER AS A GROUP

In order to qualify for discount admission, your group must be processed in one transaction. Individual payments will not be accepted at this reduced admission rate. Late arrivals will be required to pay full price admission. Your group will be admitted based on the count on your receipt. Do not pay for members that are arriving late. Remember to wait for your bus driver if he/she wishes to visit with your group.

Chaperones are responsible for group behavior. Please assign a chaperone to a specific group of children. Unsupervised and misbehaving children and their groups will be escorted from the grounds by security, and the school principal will be notified. Please attach an identifying nametag to each student. On it, include the student's name, the teacher's name, and the school name. (For animal safety, please do not use pins.)

RESERVED GROUP ADMISSION

HOURS OF OPERATION: 9:00am to 5:00pm

Rio Grande Zoo

Adults **\$3.00**

Students **\$1.50**

Albuquerque Aquarium/Rio Grande Botanic Gardens

Adults **\$3.00**

Students **\$1.50**

REGULAR ADMISSION

Seniors (Age 65 and over) **\$3.00**

Adults (13-64) **\$7.00**

Children (3-12) **\$3.00**

Children age 2 and under **FREE**

The BioPark accepts cash, check, Visa, MasterCard, and purchase orders.

RESERVATION AGENT: (505) 764-6272

**THIS DOES NOT CONSTITUTE A CONFIRMED RESERVATION.
THIS IS FOR INFORMATION PURPOSES ONLY.**

2005 SCHOOL LUNCH ORDER FORM

Zoo Aquarium-Garden

School Name: _____

School Address: _____

Contact Person: _____

Phone Number: _____

Date of Order: _____

Meal Date: _____

Serving Time: _____

Total # of Guests: _____

Lunch #1 - \$3.50/person	Lunch #2 - \$3.95/person	Lunch #3 - \$4.25/person
<p>Choice of One: Fried Chicken Drumstick or Mini Corn Dog or Grilled Cheese Sandwich or Beef Taco</p> <p>Includes: Lays Potato Chips & Small Pepsi Drink</p> <p># of Orders: _____</p> <p>Total \$ Amount: _____</p>	<p>All Beef Hot Dog Lays Potato Chips Small Pepsi Drink</p> <p># of Orders: _____</p> <p>Total \$ Amount: _____</p>	<p>¼ lb. Hamburger Lays Potato Chips Small Pepsi Drink</p> <p># of Orders: _____</p> <p>Total \$ Amount: _____</p>

Method of Payment:

Cash

Check

Credit Card

Save yourself and your students time, money and effort by pre-ordering school lunches. School lunches must be ordered at least one week prior to your visit to the Zoo, Aquarium or Botanic Garden. Please call (505) 848-7123 to place your order. If paying with a check, please make it payable to **SERVICE SYSTEMS ASSOCIATES**. PLEASE FAX BACK TO (505) 848-7192.



ALBUQUERQUE AQUARIUM EDUCATIONAL ACTIVITIES



The Albuquerque Aquarium is home to approximately 3,000 aquatic animals from a variety of salt and freshwater habitats. The aquarium's theme follows a drop of water as it travels from the headwaters of the Rio Grande in Colorado to the Atlantic Ocean. A nine-minute film, "One River, Many Voices," introduces visitors to this journey. The aquarium offers a wonderful setting to teach about conservation and stewardship. By actually seeing a shark swim by, touching a crab, hearing the waves lapping the shore or smelling the mud flats, you experience the diversity of life. For teachers, the aquarium offers a chance to learn and teach in a non-traditional setting. The aquarium is a stimulating educational resource, with applications for many disciplines.

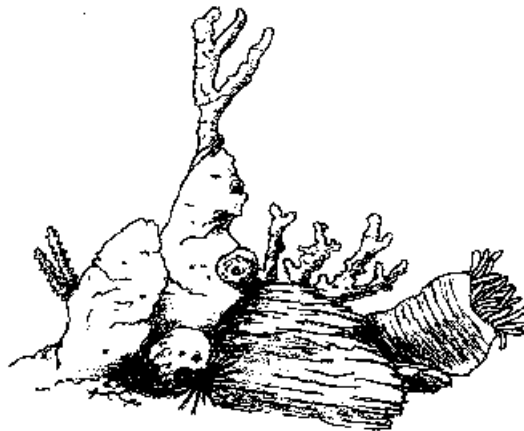
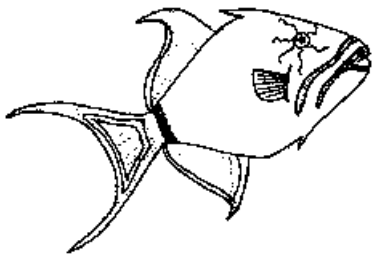
The following activities may be used during your visit to the Albuquerque Aquarium with your middle and high school students.

FISH OBSERVATIONS

Good observations can lead to a greater appreciation of the natural world. Making observations, collecting data and drawing conclusions are some of the best ways to learn about aquatic animals. This activity encourages students to slow down, examine a fish and study its physical features and behavior. After completing their workshop, can students describe the ways each fish is adapted to its habitat?

CONSERVATION FILL-IN AND WORD SEARCH

While visiting the aquarium, students can complete their fill-in worksheet by reading the Ocean Conservation panels near the exit. Not all answers will be direct quotations. Students will need to apply what they have read. The missing words are the same words in the word search.



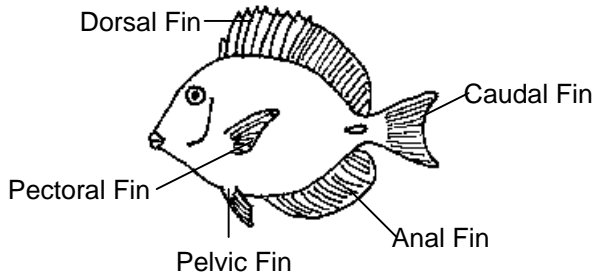


FISH OBSERVATIONS

Choose a fish from the list below. Observe the fish for at least seven minutes. Answer each question about your fish.

- Sturgeon/Rio Grande Past
- Moray eel/Eel cave
- Lookdown/Coral reef
- Squirrelfish/Inside the Wreck
- Flounder/Surf zone
- Porcupinefish/Ocean
- Cownose ray/Shallows & Shores
- Sandbar shark/Ocean
- Black durgon/Coral reef
- Barracuda/Ocean

EXAMPLE



DRAW YOUR FISH BELOW.

Which fins does your fish use for forward movement? _____

Which fins does your fish use for turning? _____

Does your fish swim fast or slow or both? _____

What color/pattern is your fish? _____

What shape is your fish?

- ____ Fusiform (torpedo shaped)
- ____ Laterally compressed (thin sideways)
- ____ Ribbon
- ____ Depressed (flattened top to bottom)
- ____ other: _____

Estimate the size of your fish. Is it small, measured in inches or long, measured in feet?

Look at the mouth of your fish. What do you think it eats? How does it eat?

Does your fish have any means of protection? (ex: camouflage, spines, sharp teeth, speed)

Describe your fish's behavior. _____

Is your fish solitary, in a mixed group or in a school? _____

Does your fish move around or stay in a certain area?

Describe the habitat of your fish.



CONSERVATION FILL IN

Read the interpretive panels near the exit to find the answers. You will find some answers directly on the panels, others will require you to think about what you have read. (The answers are the same words found in the word search.)

1. One way to reduce pollution is to ___ C ___ L ___.



2. We need to P ___ ___ ___ ___ the ocean so future generations may enjoy it.



3. ___ E ___ L ___ ___ S function as natural purifiers.

4. B ___ R ___ ___ ___ C ___ S and ___ U ___ ___ protect coastal communities from storms and erosion.

5. ___ ___ I ___ and M ___ ___ ___ L waste affect the ocean creatures as well as humans.

6. The majority of O ___ ___ pollution is from spills or leaks that originate from land or rivers.

7. Animals choke or have their digestive system blocked by ___ ___ O O ___ and ___ Y ___ ___ A ___ when they mistake them for food.

8. ___ A ___ R ___ L ___ S, ___ ___ ___ R ___ S, and ___ H ___ E ___ that are caught in fishing nets by mistake are called ___ Y ___ ___ C H.

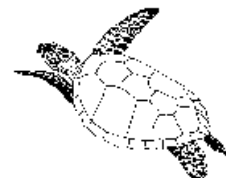
9. Coastal D ___ ___ ___ P ___ ___ T is a big factor in the destruction of ocean ___ B ___ A ___.

10. C ___ ___ T ___ wetlands support more than 75% of the nation's commercial fish and shellfish.

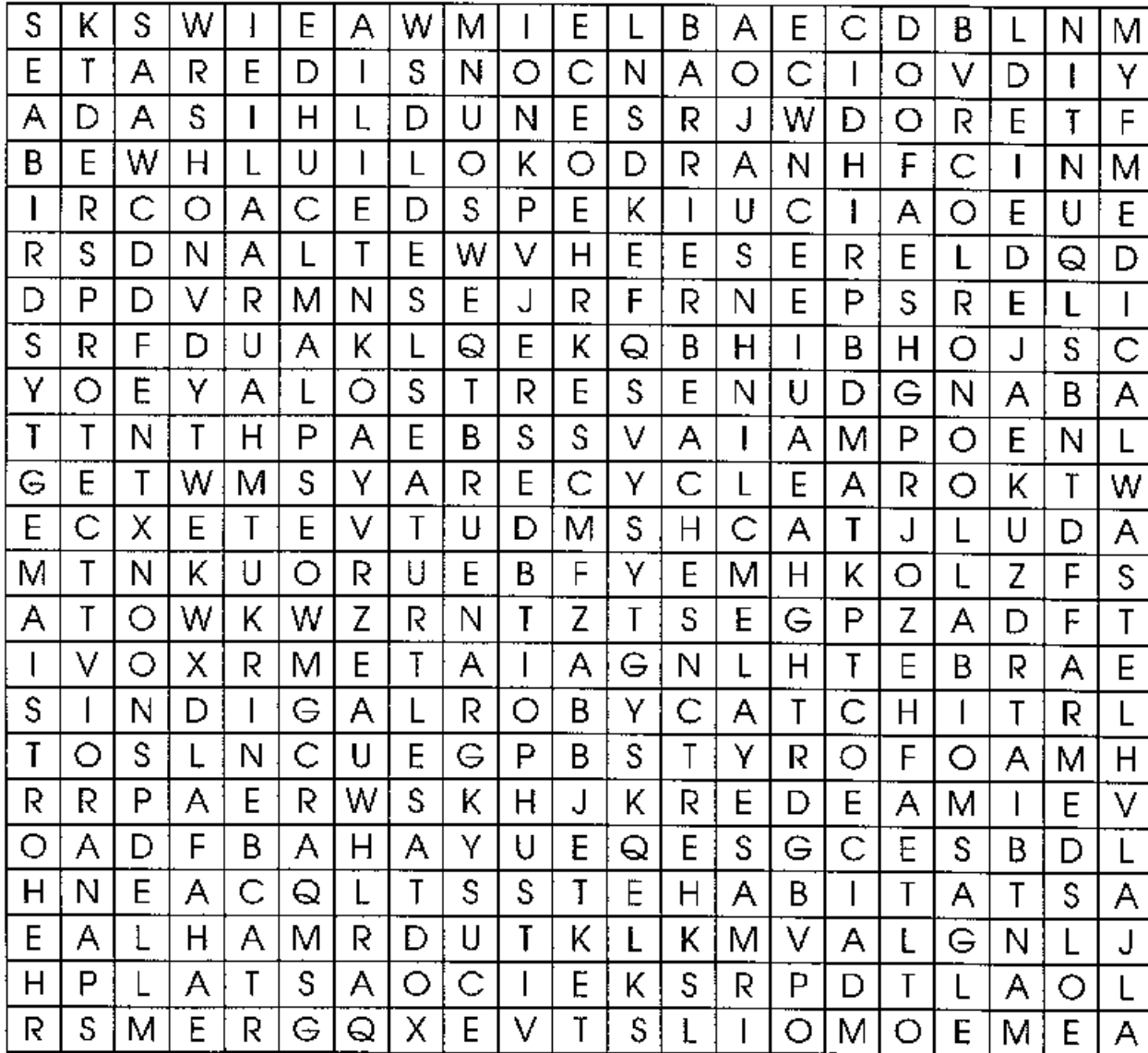
11. Because of pollution, many of the ocean's creatures are now ___ N ___ ___ E ___ E ___.

12. You can help ocean species by only eating ___ E ___ O ___ that was caught or ___ M ___ in a sustainable way.

13. Be ___ N ___ ___ A ___ of ocean wildlife.



CONSERVATION WORD SEARCH



BALLOONS
BARRIER BEACHES
BYCATCH
COASTAL
CONSIDERATE
DEVELOPMENT
ENDANGERED

FARMED
HABITATS
MEDICAL WASTE
OIL
PROTECT
RECYCLE
SEA BIRDS

SEAFOOD
SEA TURTLES
STYROFOAM
TOXIC WASTE
WETLANDS
WHALES





RIO GRANDE BOTANIC GARDEN

EDUCATIONAL ACTIVITIES



The Rio Grande Botanic Garden is home to approximately 11,000 plants from a variety of habitats. The glass conservatories showcase plants of North American Deserts and Mediterranean climates. There are also formal gardens that include a Spanish Moorish garden, the Jardin Redondo and the Ceremonial Rose garden. The Heritage Farm is opened year round. The Butterfly Pavilion is open May-September.

The botanic garden offers a wonderful setting to teach about biodiversity. By actually seeing a tall saguaro cactus, a flitting butterfly or the lily pads in the pond; by hearing the waterfall; smelling the lavender and roses; or feeling the dry desert earth, you experience the diversity of life. For teachers, the botanic garden offers a chance to learn and teach in a non-traditional setting. The botanic garden is a stimulating educational resource, with applications for many disciplines.

The following activities may be used during your visit to the Rio Grande Botanic Garden with your middle or high school students.

DIFFERENT IS GOOD

An adaptation is a change in a body structure or behavior that better enables a plant or animal to survive in its habitat.

An example might be a mesquite tree's deep taproot. Through observation, students will be able to identify plants and match them with their adaptations. This activity is for use in the conservatories.

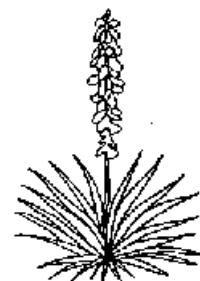
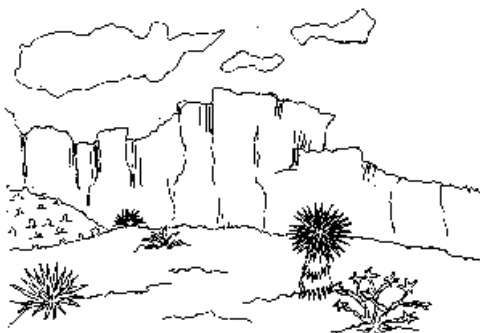
PLANT OBSERVATIONS

Good observations can lead to a greater appreciation of the natural world. Making observations, collecting data and drawing conclusions are some of the best ways to learn about the intricate lives of plants. This activity encourages students to slow down, examine a flower and gather information about that plant's needs. Please, don't pick the flowers!



MEDITERRANEAN CLIMATE SCAVENGER HUNT

Plants in the Mediterranean Conservatory come from many areas around the world but each has a Mediterranean climate. Students will find each plant's native country on the identification signs, as well as its family name. Are any plants in the same family found in different parts of the world?





DIFFERENT IS GOOD

Observe the listed plants.

DESERT PLANTS

A. wax plant

B. barrel cactus

C. boojum tree

D. saguaro

E. turtlesback



MEDITERRANEAN PLANTS

F. rosemary

G. bottlebrush

H. banksia

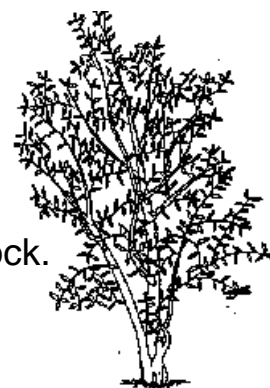
I. olive tree

J. cape plumbago

Adaptations

Choose the best matched adaptation/plant pair.

1. ____ **ribs:** provide shade for the plant, allow it to expand and contract for water storage, and channel rain toward the root.
2. ____ **hairy leaves:** provide shade for the leaf, discourage insects.
3. ____ **thick, leathery leaves:** adapted to drought.
4. ____ **sharp spines, (modified leaves):** keep predators away and greatly reduce evaporation.
5. ____ **strong smell (aromatic oils):** repels predators.
6. ____ **tubers:** store water and food.
7. ____ **very slow growth:** uses less water.
8. ____ **waxy covering:** keeps water inside, provides sun block.
9. ____ **resinous sap:** discourages being eaten.



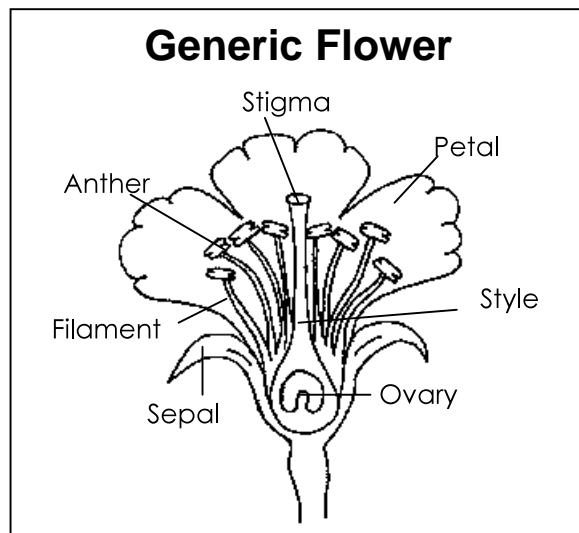
BEST MATCHES: 1BD, 2G, 3H, 4BCD, 5FG, 6E, 7BD, 8A, 9J



PLANT OBSERVATIONS

Find a plant with a flower,
and use it to answer the questions below.

Draw and label your flower.



Draw the leaves of your plant and their arrangement on the stem.

What does the soil moisture feel like in the area where your plant is growing? _____

Is your plant growing in full sun, partial sun, or full shade?

Look closely for insects on your plant. How many did you find?



MEDITERRANEAN CLIMATE SCAVENGER HUNT

Browse around the Mediterranean Conservatory, reading the plant labels. See if you can find a plant from each Mediterranean climate region. Record the plants' common name and family name in the correct region below.

REGION	PLANT (common name)	FAMILY
Ex: Mediterranean Basin	<u>rockrose</u>	<u>Cistaceae</u>
1. Mediterranean Basin	_____	_____
2. S. & C. California	_____	_____
3. N. & C. Chile	_____	_____
4. SW. & S. Australia	_____	_____
5. South Africa	_____	_____

Locate each region on the map using the numbers 1-5 from above.





Please help us to improve our education activities. Your comments are important to us! Please take a moment to fill out the evaluation below and mail it to:

Aquarium/Botanic Garden Education
2601 Central Ave NW
Albuquerque, NM 87104

(You may also deliver this to the education building the day of your visit.)

Please check each activity you used:

BOTANIC GARDEN

- Different is Good
- Plant Observations
- Mediterranean Hunt

AQUARIUM

- Fish Observations
- Conservation Fill-in
- Conservation Word Search

What grade do you teach? _____

Which activities did you find most effective? Why?

Which activities did you find least effective? Why?

What could be included in the packet to further enhance your next visit?

Any additional comments:

Thank you!

(Optional)

Name: _____ Phone #: _____