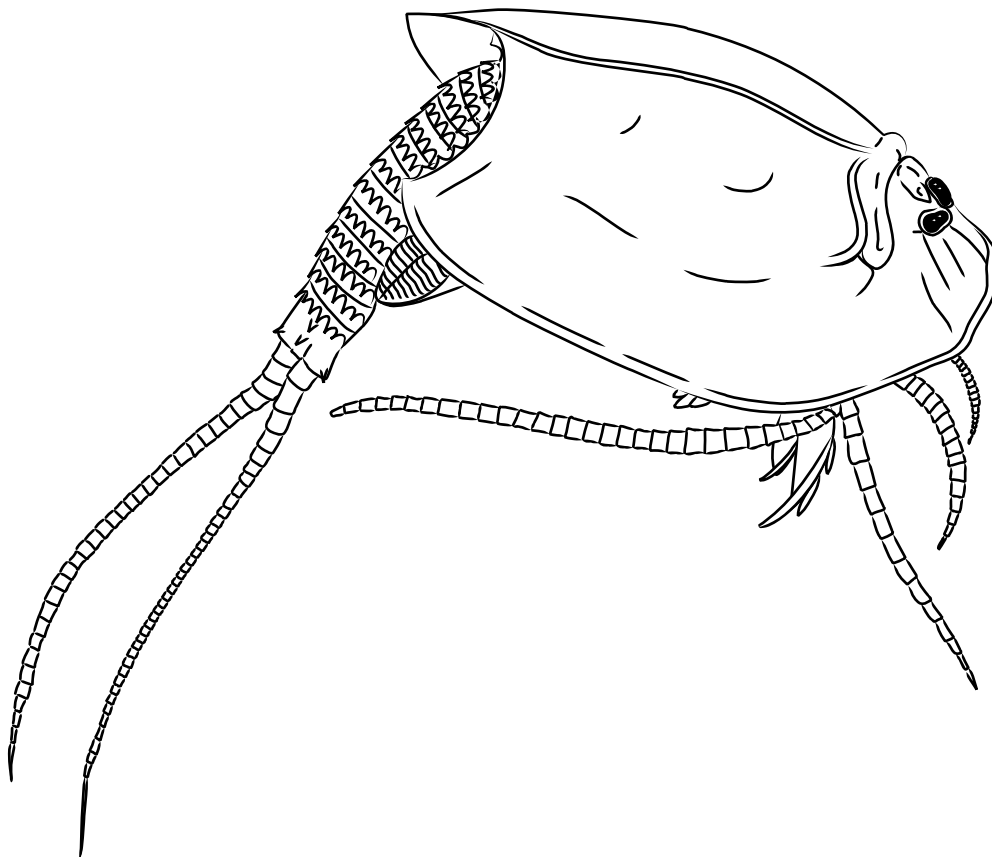


TRIOPS



TRIOPS

Your **Triops** kit is a fascinating resource for your Classroom. These ancient creatures actually grow to full size in about 30 days and hatch within 24 hours from the eggs supplied in the kit.

If the instructions in the care manual are followed your class will benefit from many hours of close wildlife observation.

These notes have been produced to give you a bank of practical classroom activities, with photocopiable pages to enable you to get the best out of your **Triops** kit in your classroom.

They are designed primarily to help in planning and implementing the National Curriculum Science *Life Processes and Living Things*. The kit helps to demonstrate life cycles and characteristics of living organisms. There are also opportunities to cover *Experimental and Investigative Science*, in particular the obtaining evidence section.

There are links with the requirements of the *Literacy Hour* for non-fiction work, for example: reading and following directions/instructions, writing captions, assembling information, writing descriptions, lists and observations.

The children's observations can give real opportunities for *Data Handling*.

Information Technology: It may be possible to use the data your class collects about their Triops to set up a diary on a school web page thus allowing links to other schools around the world who may be growing Triops. To date there are a few sites on the World Wide Web that have Triop information. Put 'Triops' in your search engine and see what they can find!

The **Triops** leaflet that comes with your kit contains much information about Triops. You may find it useful to photocopy it for groups of children to use as a resource when carrying out the activities in these notes.

CLASSROOM ACTIVITIES

TRIOPS ACTIVITY ONE

This is best done just after the kit has been introduced to the children. A group of children could be given the job of getting the tank ready for the triop eggs. It is recommended that an adult supervises the placing of the eggs in the tank. Remember to use only spring/bottled or clean rainwater and have it ready at room temperature (21-27c). Use the instructions on page 3 of your Triop booklet. Use TRIOPS ACTIVITY SHEET ONE.

TRIOPS ACTIVITY TWO

Try this activity after about a week when it will be easier to distinguish between the different animals that have hatched. Use TRIOPS ACTIVITY SHEET TWO.

TRIOPS ACTIVITY THREE

This activity is best done when the Triops are fully grown. Use TRIOPS ACTIVITY SHEET THREE. The picture on the sheet shows the side and top of the Triop. See if your class can draw what it looks like from underneath. The way they eat can be observed from the underside. It may be helpful to use a magnifying glass.

TRIOPS ACTIVITY FOUR

Use TRIOPS ACTIVITY SHEET FOUR. Photocopy a few sheets of the activity sheet cut them in half and made into a booklet. The children can make observations over the weeks of the Triops life. It could be started after 48 hours and could be filled in every 2 days for 8 days. For these days they should estimate the size of the biggest Triop. At this stage they could use the data collected to make a simple graph to show the amount of the Triops, Fairy Shrimp and Daphnia that have hatched over the first few days. They may notice that the amounts may go down, as the larger ones eat the smaller creatures!

After ten days they could try to record the size of the Triops. This must be done under adult supervision and done very carefully. Select the biggest triop and using a plastic spoon remove the triop and place a ruler over the spoon to measure the length of it.

Do not handle the triop at all.

CLASSROOM ACTIVITIES

Carry on with the data collection throughout the life of your **TRIOP WORLD**. You should have enough observations after the 30th day to represent the data on a graph or diagram. The children should be encouraged to decide how best to organise and present findings. Over this period of time they may be able to note patterns in the Triops' behaviour.

TRIOPS ACTIVITY FIVE

TRIOP WORLD is an ideal project for when your class is finding out about dinosaurs and prehistoric life. **TRIOPS ACTIVITY SHEET FIVE** asks the children to note the similarities between Triops and Dinosaurs.

TRIOPS ACTIVITY SIX

The life cycle of the Triop is very interesting as it is a hermaphrodite and it's eggs can remain dormant for a long time. See **TRIOPS ACTIVITY SHEET SIX**.

TRIOPS ACTIVITY SEVEN

This activity aims to get the children to research on his/her own. You may like to use **TRIOPS ACTIVITY SHEET SEVEN**. There are many sources they could use: internet, **TRIOP WORLD** booklet, libraries, encyclopedias. They should be encouraged to make their own bibliography and use their own observations.

TRIOPS ACTIVITY EIGHT

TRIOPS ACTIVITY SHEET EIGHT is a simple missing word activity. The words at the bottom of the page could be removed to make it more of a challenge.

ALSO INCLUDED IN THE PACK:

A page of Triops to use when creating own work sheets etc.

A page of facts about Triops

A book list

TRIOPS ACTIVITY SHEET ONE

Follow the instructions for preparing your tank and habitat for your TRIOPS.

See if you can write a set of instructions for setting up a TRIOP habitat for someone else to follow.

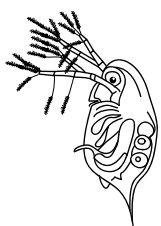
Name

TRIOPS ACTIVITY SHEET TWO

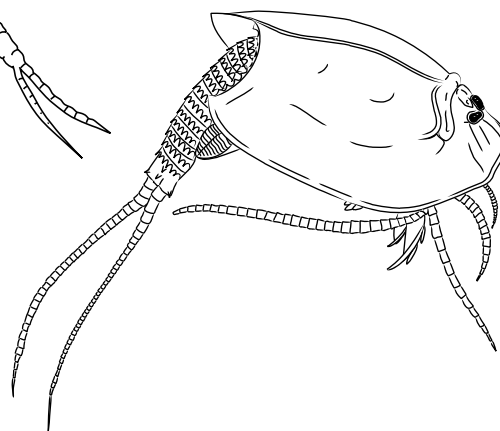
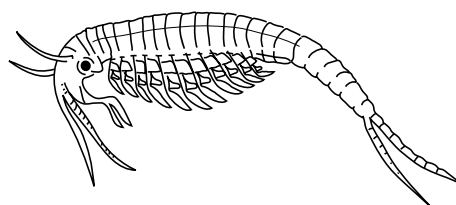
When your eggs have hatched look very closely at them with a magnifying glass. Are there any other life forms present?

Your egg packet may have contained:

Daphnia



Fairy Shrimp



as well as Triops.

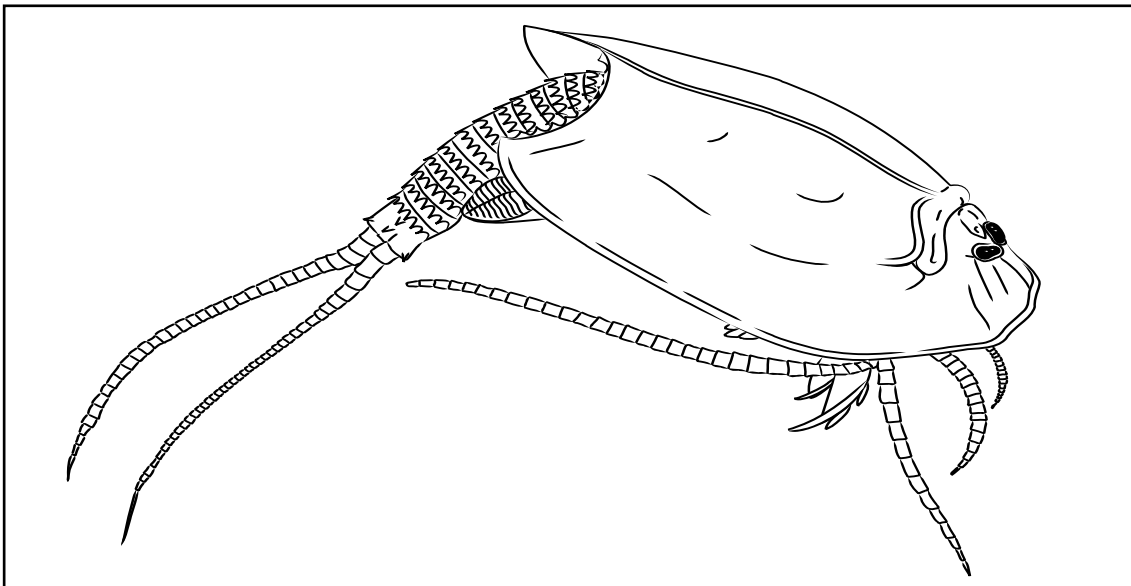
Make a list of what you find and how many of each type.

Name

TRIOPS ACTIVITY SHEET THREE

Look closely at a Triop. You could use a magnifying glass. What do you see? See if you can identify the different parts of its body.

Match the labels below to the parts of the body on the Triop drawing. The legs and mouth are on the underside of the Triop.



Eyes

Outer Shell (carapace)

Tail

Legs

Mouth

Try drawing and labelling a Triop as you see it.

Name

TRIOPS ACTIVITY SHEET FOUR

Triop observation sheet.

Date:

Name of observer/s:
.....

How many Triops?:

How many Fairy Shrimp?:

How many Daphnia?:

Length of biggest Triop:

General observations of feeding, swimming style, burrowing:

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TRIOPS ACTIVITY SHEET FIVE

Triops have been on earth since the time of the dinosaurs. They have a lot in common with dinosaurs. Underline any words below that you think triops have in common with dinosaurs.

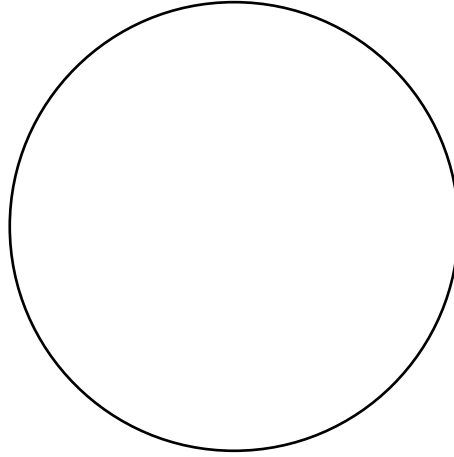
Extinct	Eyes	Scaly covering	Mouth
Tail	Cold blooded	Legs	Lay eggs

Triops live in the water. (*aquatic*) Make a list of any dinosaurs that you think used to live in the water. You could draw a picture of them.

Name

TRIOPS ACTIVITY SHEET SIX

THE LIFE CYCLE OF A TRIOP



Draw the different stages of the Triop's life around the circle above.

Use the words below to help you. You will have to put them in order!

Larvae	Laying eggs
Eggs	Adult Triop

NOTES:

- Once the eggs are laid, they can remain dormant for many years. This dormant state is called *diapause*.
- Your Triops' life span is about 6 to 12 weeks
- They can grow to about 4cms.
- They are fully adult at about 2 to 3 weeks; they can then lay eggs.
- Most Triops are *hermaphrodites*: this means they can fertilise their own eggs.

Name.....

TRIOPS ACTIVITY SHEET SEVEN

Use all the research facilities available to find out more about Triops. (Libraries, Internet, school books.) There is a lot of information in the **TRIOP WORLD** handbook. You could find out general facts about Triops that would be of interest to you and your class or research one aspect of their life such as habitat, reproduction, feeding, or movement.

Use the following ideas to get you started. This is only a guide, list your own questions. Don't forget to note where you found the information.

Find out about how Triops reproduce.

Who do you think are Triops' predators?

Find out more about Suspended Animation or *diapause*. Are there any other creatures that can enter *diapause*?

What was earth like 350 million years ago, when Triops first appeared on the earth.

Find out about other crustaceans. How are they similar or different from Triops?

Where do Triops live in the 'wild'?

Name

TRIOPS ACTIVITY SHEET EIGHT

Name

Triops are They get their name because they have eyes. They live in and can lay at two to three weeks old.

Triops can fertilise their own eggs as they are

Triops have an outer shell called a and have seventy pairs of When they first hatch they are

They have a natural life span of about six to twelve

larvae	three	crustaceans	weeks
	hermaphrodites	eggs	legs
water	carapace		

SOME FACTS ABOUT TRIOPS

- Triops lived 350 million years ago.
- Trilobites are prehistoric relatives of Triops.
- Triops can enter a state of suspended animation called *diapause*. This allows Triops to survive in drought ridden areas. When the rain comes, it makes temporary puddle and ponds. Triop eggs hidden by a past generation of Triops come to life, hatch, mature and reproduce quickly so that their eggs remain when the pond dries up again. See the **TRIOP WORLD** booklet for details about how *you* can try to hatch a second generation.
- Triops can be found all over the world (yours come from the USA). They have also been found in Africa, India, Japan, Russia and Australia.
- Triops obtain the oxygen that they need from the water through their feet and this characteristic places them in a group of crustaceans called *branchiopods*.
- Triops are sometimes called *dinosaur shrimp* or *tadpole shrimp*. Their scientific name is *Triops longicaudatus*.
- Triops in the 'wild' feed on smaller creatures. You will notice that they might eat any Daphnia and Fairy Shrimp in your tank. They will eat Triops smaller than themselves. They also eat plant life around them.
- Triops use their many tiny 'feet' to transport their food up to their mouths. They do this while swimming on their backs.
- Triops wear their skeletons on the outside of their body: *exoskeleton*. They shed their exoskeleton often while they grow to maturity.

TRIOPS BOOK LIST

The **TRIOP** booklet provides plenty of interesting facts about Triops. However you may like to find out more, the books listed below are recommended, also encyclopedias and general books about Pre-historic life and invertebrates.

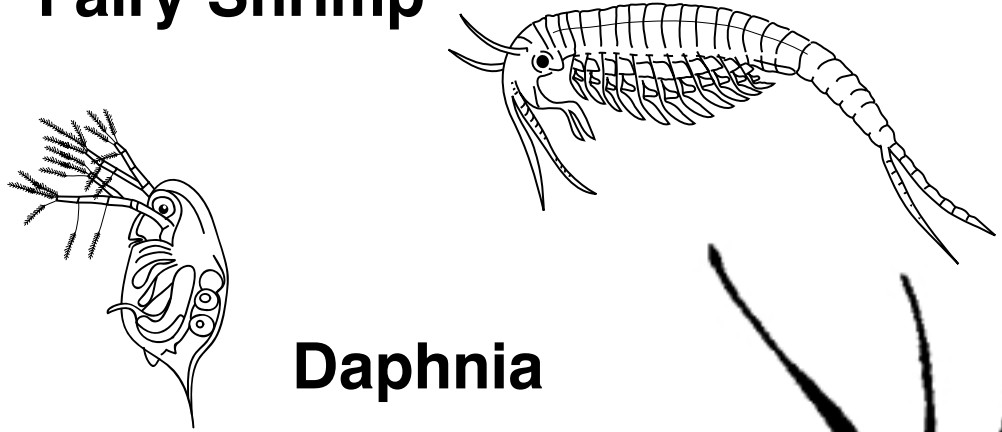
Many schools and children have access to the Internet, searches could be made and classes may find they are able to communicate their findings with other schools around the world that are also investigating the life of the Triop.

Instant Creature: The Swimming Critters from Way Back When ~ Jack Keely/Planet Dexter Published 1995
Addison Wesley

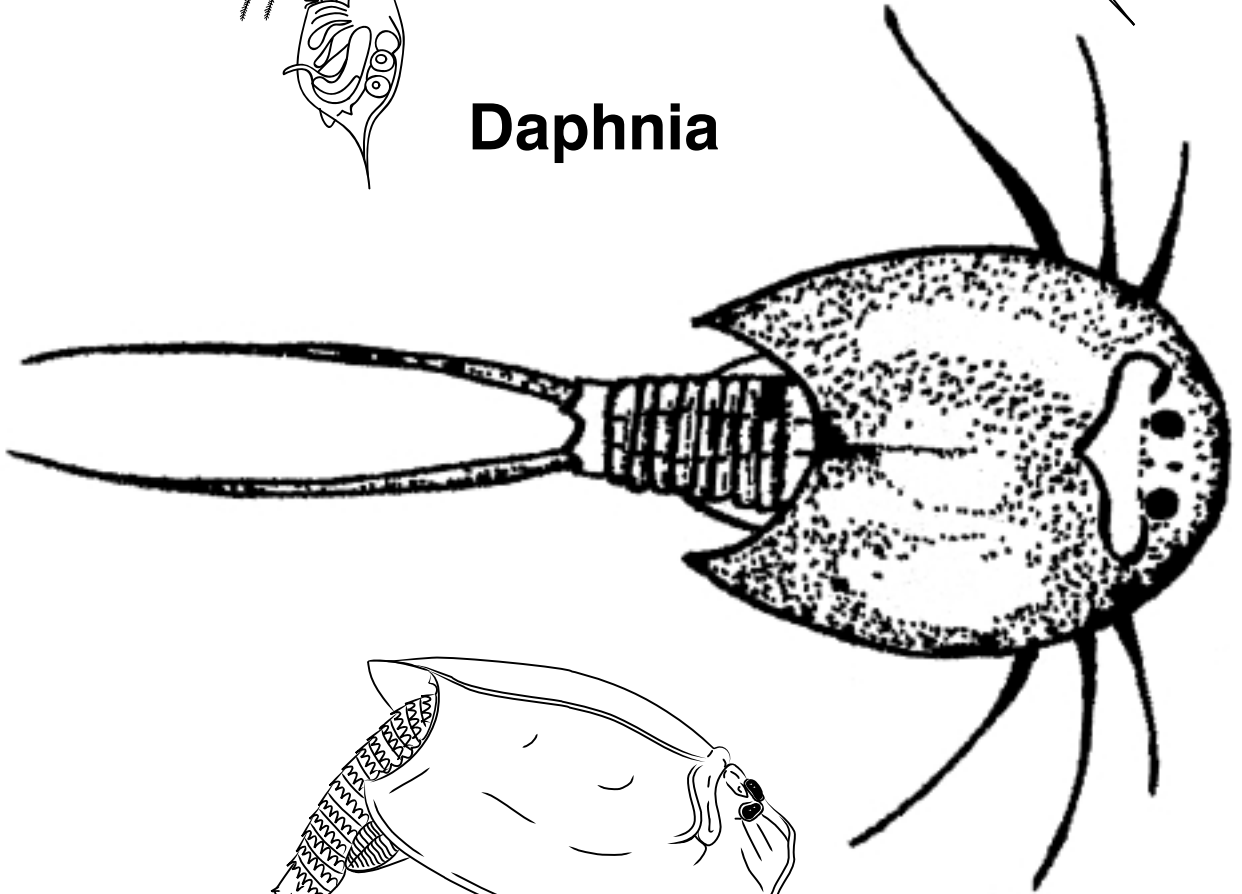
Focus on: Prehistoric Life ~ M. Benton & E. Cook
Published 1994 Gloucester Press

TRIOPS

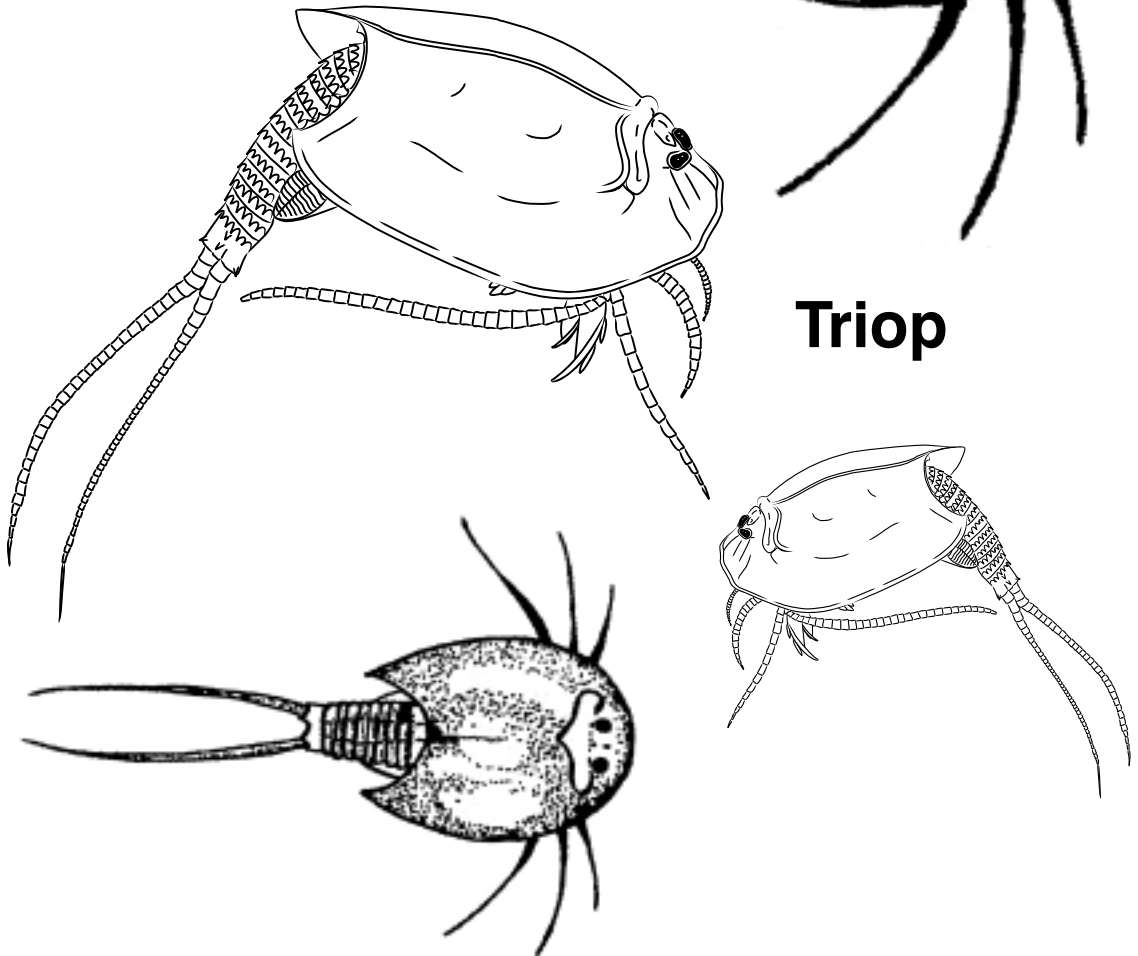
Fairy Shrimp



Daphnia



Triop



TRIOPS CLASSROOM FEEDBACK SHEET

We would appreciate your comments about your teacher pack notes and any other ideas you might have about using **TRIOP WORLD** in the classroom.

You can write to us, e.mail or fax us back on this form.



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