

Cover Sheet for Math-eze
November 18, 2006
Bonnie Miller

The lesson plans that I created for this meeting fits the objectives from the Math-eze Workshop and the Topic of the Day – “Using Manipulatives and/or Technology to Solve Math Problems”.

The objectives of my lesson plan was to develop strategies to help students as learn new, innovative ways to use manipulatives to reinforce the understanding of fractions. I used a book about the events during a ‘Field Day’. Even though the book is fictional, the activities shown could happen in a real life situation [day camp] for my students. I hope my peers will find this lesson useful in their classrooms. Through these activities I have analyzed the student’s achievement data and it has increased my reflective practices.

I used several activities to reinforce fractions and fact families. Students always enjoy using candy or food as part of any activity. My students have asked more than once if we can do this one again.

Name: Bonnie Miller

Grade Level/Subject: 2nd Grade Math

Topic: Fractions and Fact Families – Jump Kangaroo Jump!

Objectives (P.A.S.S.):

Standard 2: Number Sense – the student will use numbers and number relationships to acquire basic facts.

1. Place Value
 - b. Demonstrate [using concrete objects, pictures, and numerical symbols] fractional parts including halves, thirds, and fourths.

Standard 3: Number Operations and Computations – The student will compute with whole numbers less than 100.

1. Develop and apply the concepts of addition and subtraction.
 - a. Demonstrate fluency with basic addition and subtraction facts and fact families to 18.
2. Use mental strategies [or decomposition strategies] for addition and subtraction [e.g. make a group of 10 objects and 2 objects from a group of 7 objects and 5 objects.]

Standard 5: Data Analysis – The student will demonstrate an understanding of data collection and display.

1. Organize, describe, and display data using concrete objects pictures, grids, and numbers.

Instruction

Introduction: Ask the students if they have been to a summer camp? Day Camp? What kind of activities did they do? Which was their favorite? Were they always in the same group?

1. Materials needed:

1. Jump, Kangaroo, Jump – by Stuart J. Murphy – MathStart – ISBN: 0-06-446721-X
2. Mix and Match Fraction Bars from Big Book Of Math – Dinah Zike ISBN: 1-882796-22-5 – optional – use for Foldables
3. Hershey Candy Bar – one for each group or student
4. Colored construction or colored paper – 5 pieces for each student

5. Paper and Pencil

2. Instructional process:

1. Read Jump, Kangaroo, Jump.
2. Talk about a 'Field Day', compare it to Day Camp.

Activities:

1. Chart'em Up: Discuss the animals from the story. Where do they live? Do we have any of these animals in the USA? Where? Using a sheet of construction paper create a bar graph to show the 12 campers. Which group has the most? The least?

2. The Great Divide: Create a 'Layered Book' foldable using 3 colored sheets. Each layer should have about a 1" margin at the bottom. You can glue it together in the fold at each layer. I rolled the short side a little and stapled from the center out and it worked great.

Top Layer – Write 'Name's Fraction Book'

2nd Layer – If you're using the 'fraction bar' numbers – glue the '1' slip or write a number '1' in the center of the bottom margin. Above the strip write a definition for 1. e.g. One whole object.

3rd Layer – Glue the '1/2' or divide the margin in 1/2's – write 1/2 on each side. Write a definition for 1/2.

4th Layer – Glue the '1/3' slip or divide in 1/3's – write 1/3 in each. Write a definition.

5th Layer – Glue the '1/4' slip or divide in 1/4's – write 1/4 in each. Write a definition.

6th Layer – Glue the '1/12' slip or divide in 1/12's – write 1/12 in each. Write a definition.

Review the story. Use the foldable to show how the teams were divided. The bottom layer works great to show each one of the 12 campers.

3. All in the Family: Remind the students that the animals are still 1 whole thing and the fraction only indicates what part of the team they are. Let's look at the Fact Families for 12. Have students draw 7 isosceles or equilateral triangles on their regular paper – 3 to 4 lines tall. Putting dots for the vertices and connecting with lines works great for drawing triangles.

First triangle- put '12' on the top of the triangle. '0' at the bottom left vertex and '12' at the bottom right vertex. Inside the triangle put a minus sign near the top and a plus sign midpoint above the base line.

Second triangle will have 12 at top – 1 on left and 11 on right. Don't forget signs inside the triangles. Finish all triangles with 12 at the top. The last one is 6 and 6.

Read triangles from any vertex tracing along lines including the sign that fits.
EX. Starting at the top of the 1st triangle – say 12 minus 0 equals 12 – trace from 12 down left side to 0 and then across to 12 on the right side. If you trace down the right side say – 12 minus 12 equals 0. Trace from the left across bottom say – 12 plus 0 equals 12 – going up the right side ending up on the top of the triangle.

4. Tasty Teams: Give each student or group 1 Hershey [plain] candy bar – hopefully it is still intact. Open and have the students count the panes on the candy bar. [12] Carefully divide the candy bar into panes. Using foldable talk about each layer and how the panes would be divided. Each pane is almost the right size to fit the bottom margins.

Give each student or group a colored sheet - using the candy pieces do a variety of dividing exercises using the 'teams' in the book or make up your own; e.g. have each student use the 12 pieces and divide evenly in half in 2 places on the paper. Divide pieces into 3rds in pool lanes or triangles. Using the corners, divide into 1/4^{ths}.

Additional Activity: Science: Use attached worksheets from edHelper web site to study about Kangaroos, Emus, Koala, and Platypuses.

Additional Activity: Geography : Use a World Atlas or Globe to locate Australia. Measure the distance from a town in Australia to your school. Another great math addition problem.

3. Closure: Review Fact Families and fractions – e.g. 3/12ths are the same as 1/4. 6/12 is the same as 1/2 and so on. Since the main focus of this lesson has been fractions finish up the lesson with eating their candy bar, by using fractions – of course.

Assessment: Numerical assessments can be given on Chart, Foldable and Fact Family exercises. Visual assessment can be noted on 'Tasty Teams'.

Modifications/Accommodations: The lower level learners will need additional help creating foldable. They may also need additional manipulatives to grasp the fractional concept of 1/3, 1/4, and 1/12ths. Upper level learners should be able to make the association with 3/12^{ths} is the same as 1/4, and 6/12^{ths} is the same 1/2, etc. If students are placed in groups they need to participate in all exercises. Upper level learners can be monitors and assist with foldable and Tasty Teams exercises.

Reflection: Foldables take some time to make if this is the first time to make them. Wait to hand out and open candy bars until you are ready to use them as Tasty Teams may come up members short. Explain that they will get to eat some of the candy after they finish the lesson. As you can tell the students really liked the candy part of this lesson. Since we have Math right before lunch, we only ate a couple of pieces, but we used the remaining pieces for several days in short follow-up fraction moments. They have already asked if we can do this one again.

Want to join in on Australian games and activities try this site.

<http://australianjoeyscouts1.4t.com/Roo/gms.html>

The home site has many more activities – information, crafts, stories

<http://australianjoeyscouts1.4t.com/Roo/>

More interesting information on kangaroos – with photos

<http://www.kidcyber.com.au/topics/kanga.htm>

Kangaroo Facts

<http://www.koalaexpress.com.au/kangaroo%20facts.htm>

Once again I used www.edHelper.com to create work sheets. There are also color sheets and other activities on this site. Great bargain for the subscription.

Do a web search to find out more about Koalas, Emus, Platypuses, Dingoes and Kookaburras.

Kangaroos



¹ Kangaroos are amazing animals! They have a pair of muscular hind legs that can be 10 times larger than their front legs. They have a long, strong tail that they use for balancing when they move around. They don't run, but they hop swiftly - with a top speed of 40 miles per hour, they can cover a distance of over 30 feet and reach a height of more than 10 feet in a single jump!



² There are over 50 different species of kangaroos, which can be divided into two groups - large and small. Large kangaroos include many familiar faces, such as red kangaroos, gray kangaroos and wallabies. Red kangaroos are the biggest of any kangaroo. They can stand up to 6 feet tall and weigh over 200 pounds! Small kangaroos consist of bettongs, rat kangaroos, and potoroos.

³ Kangaroos inhabit a variety of environments, but most of them live in grasslands and open woodlands. They can only be found in Australia, New Guinea, and neighboring islands like Tasmania. Grass, leaves, and herbs are the diet for most kangaroo species.

⁴ One funny fact about kangaroos is how they got their name! When European explorers had their first encounter with this strange-looking, hopping animal, they asked a native Australian what it was called. He replied "kangaroo." This word actually meant, "I don't understand [your question]." The explorers thought "kangaroo" was the animal's name, and that is how kangaroos got their name!

⁵ To understand kangaroos, we must first learn some "kangaroo jargon" -

- Mob - a group of kangaroos
- Boomer, buck, or jack - a male kangaroo
- Flyer, doe, roo, or jill - a female kangaroo
- Joey - a baby kangaroo

⁶ When a boomer is ready to breed, he picks fights with the other boomers of his mob. Facing each other, he and his challenger stand on their hind legs and start a kick-boxing match! If he successfully defeats every contestant, he can mate with all the flyers of his mob.

⁷ A joey is tiny when it is born. It measures merely 1 inch long and weighs less than 1 gram! Without any parental assistance, the joey has to find its way to its mother's pouch after birth. Once inside, it attaches itself to one of the four nipples that swells to fill its mouth. The joey remains in the pouch for the next few months. It does not venture outside until it is fully developed, and it never wanders far from its mother. When it senses danger, it quickly returns to its safety net - the pouch - by making a headfirst plunge. The joey usually becomes independent after it celebrates its first birthday.

⁸ Interestingly, soon after a flyer gives birth to her joey, she will mate and be pregnant again. The development of the second embryo comes to a pause a week later and does not resume growth until the first joey leaves the pouch.

Name _____



Date _____

Kangaroos

<p>1. Where can we find kangaroos?</p> <p><input type="radio"/> A African desert</p> <p><input type="radio"/> B The Pacific Ocean</p> <p><input type="radio"/> C Australian grassland</p> <p><input type="radio"/> D The Arctic</p>	<p>2. What does a kangaroo use for balancing when it hops?</p> <p><input type="radio"/> A Its tail</p> <p><input type="radio"/> B Its front legs</p> <p><input type="radio"/> C Its head</p> <p><input type="radio"/> D Its pouch</p>
<p>3. Most kangaroos feed on grass, leaves, and herbs.</p> <p><input type="radio"/> A True</p> <p><input type="radio"/> B False</p>	<p>4. Which of the following best describes a kangaroo's hopping ability?</p> <p><input type="radio"/> A It can cover a distance of over 10 miles in a single hop.</p> <p><input type="radio"/> B It can hop at 40 kilometers per hour.</p> <p><input type="radio"/> C It can reach a height of more than 10 feet in a single hop.</p> <p><input type="radio"/> D It can cover a distance of over 30 meters in a single hop.</p>
<p>5. Which of the following is not a large kangaroo?</p> <p><input type="radio"/> A Wallaby</p> <p><input type="radio"/> B Gray kangaroo</p> <p><input type="radio"/> C Red kangaroo</p> <p><input type="radio"/> D Rat kangaroo</p>	<p>6. Which of the following is the right description in "kangaroo jargon"?</p> <p><input type="radio"/> A Mob - a male kangaroo</p> <p><input type="radio"/> B Joey - a male kangaroo</p> <p><input type="radio"/> C Jill - a female kangaroo</p> <p><input type="radio"/> D Jack - a baby kangaroo</p>
<p>7. When a baby kangaroo feels threatened, it jumps into its mother's pouch headfirst.</p> <p><input type="radio"/> A True</p> <p><input type="radio"/> B False</p>	<p>8. Which of the following about kangaroos is true?</p> <p><input type="radio"/> A The strongest male kangaroo gets to mate with all the female kangaroos of his mob.</p> <p><input type="radio"/> B Soon after giving birth, a female kangaroo becomes pregnant again.</p> <p><input type="radio"/> C A baby kangaroo remains in its mother's pouch until it is fully developed.</p> <p><input type="radio"/> D All of the above.</p>

Koalas



¹ Koalas are cute, furry mammals living in the forests of Eastern Australia. They like to make eucalyptus trees their homes. They belong to a group called "marsupials." Marsupials share one common feature - they give birth to their baby at a very early stage, and the young grow and complete their development inside their mother's pouch. Other than koalas, kangaroos and wombats are also marsupials.



² Koalas are territorial animals. They mark their home ranges by leaving their scent or scratching eucalyptus trees with their sharp claws. Their home ranges cover about 15 to 20 eucalyptus trees. Koalas are true tree lovers - they rarely come down from a tree. When they want to move from one tree to another, they simply jump! They only climb down when the distance between two trees is too far or when they need to find a mate. What are koalas doing everyday on the trees? They spend as many as 20 hours a day sleeping and the rest climbing trees, eating, or looking after their babies.

³ Koalas are inactive because their diet gives them very little energy. Koalas' favorite food is eucalyptus leaves. Even though there are over 600 types of eucalyptus trees in Australia, a koala eats the leaves of only 2 or 3 kinds. Interestingly, eucalyptus leaves are so poisonous that they can kill most animals. Thanks to their sense of smell and a special digestive system, koalas have no problem eating eucalyptus leaves. Koalas sniff a eucalyptus leaf first before eating it. They do so to be certain that this leaf is from their preferred types of eucalyptus trees. Koalas' digestive system has a special function to take the poisons out of eucalyptus leaves so that they will not get sick. Koalas rarely drink water. In fact, the word "koala" means "no drink" in several Australian aboriginal languages. Do koalas really not drink water? No, koalas drink water by absorbing moisture from the leaves or by sipping raindrops on the leaves.

⁴ When female koalas turn 3 years of age, they are ready to mate. During the mating season, male koalas bark, grunt, or even fight with other males to attract female koalas. Female koalas give birth to a tiny baby koala about 35 days after mating. A baby koala is called a joey. A joey is very small, about 0.8 inches long or the size of a bee. It is hairless, and its eyes and ears are not formed. A joey slowly finds its way to its mother's pouch by following the smell of milk. Once it crawls inside the pouch, it attaches itself to one of the two nipples that swells to fill its mouth. This guarantees that a joey can drink milk all the time and will not fall out of its mother's pouch by accident. A mother koala's pouch opens at the bottom, and she has a special muscle keeping the pouch tightly closed.

⁵ For the first six months of its life, a joey remains in the pouch and continues to grow. By the time that it is ready to take a peek of the outside world, a joey has fur, and it can see and hear. In addition to milk, a joey starts to eat "pap" after it is six months old. Pap is produced by the mother's body as droppings. It has partially digested eucalyptus leaves. A joey leans out of the pouch opening to feed on pap. Pap helps a joey get used to the diet of eucalyptus leaves. When a joey is about a year old, it stops drinking milk and eating pap. It is now ready to eat fresh eucalyptus leaves! In most cases, a young koala stays with its mother for 2 or 3 years before it moves out and finds its own home range of eucalyptus trees.

Name _____



Date _____

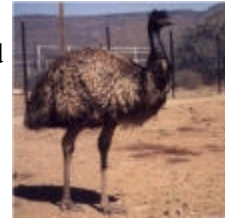
Koalas

<p>1. Which of the following statements about koalas is true?</p> <p><input type="radio"/> A Koalas often walk to a river and drink water.</p> <p><input type="radio"/> B A mother koala's pouch opens at the top.</p> <p><input type="radio"/> C Koalas are marsupials.</p> <p><input type="radio"/> D Koalas can be found in Western Australia.</p>	<p>2. What does the word "koala" mean in many Australian aboriginal languages?</p> <p><input type="radio"/> A "No walk"</p> <p><input type="radio"/> B "No drink"</p> <p><input type="radio"/> C "No eat"</p> <p><input type="radio"/> D "No sleep"</p>
<p>3. A baby koala is called a joey.</p> <p><input type="radio"/> A True</p> <p><input type="radio"/> B False</p>	<p>4. Which of the following is true?</p> <p><input type="radio"/> A Joeys rely on their eyesight to find their way to their mother's pouch.</p> <p><input type="radio"/> B Joeys are born with fur.</p> <p><input type="radio"/> C Joeys eat pap as soon as they are born.</p> <p><input type="radio"/> D Joeys are about the size of a bee when they are born.</p>
<p>5. What is the right sequence of food source for a joey?</p> <p><input type="radio"/> A Milk ==> Pap ==> Fresh eucalyptus leaves</p> <p><input type="radio"/> B Milk ==> Fresh eucalyptus leaves</p> <p><input type="radio"/> C Pap ==> Fresh eucalyptus leaves</p> <p><input type="radio"/> D Pap ==> Milk ==> Fresh eucalyptus leaves</p>	<p>6. Pap helps joeys become used to the diet of eucalyptus leaves.</p> <p><input type="radio"/> A True</p> <p><input type="radio"/> B False</p>
<p>7. How do joeys eat pap?</p> <p><input type="radio"/> A By holding out their hands.</p> <p><input type="radio"/> B By leaning out of the pouch opening.</p> <p><input type="radio"/> C By their mother's mouth feeding.</p> <p><input type="radio"/> D By sucking their mother's nipples.</p>	<p>8. Which of the following statements about koalas and eucalyptus trees is not true?</p> <p><input type="radio"/> A Koalas can eat all types of eucalyptus trees.</p> <p><input type="radio"/> B Koalas absorb moisture from eucalyptus leaves.</p> <p><input type="radio"/> C Koalas spend a lot of time on eucalyptus trees.</p> <p><input type="radio"/> D Unlike other animals, koalas can eat poisonous eucalyptus leaves without getting sick.</p>

Emus & Cassowaries



¹ In Australia, there are two birds - emus and cassowaries - competing for the title of the world's second largest bird. Indeed, with similar heights (around 6 feet) and weights (about 130 pounds), emus and cassowaries are both strong contenders to stand behind ostriches and be the second largest bird on Earth. Just like ostriches, whose wings are deemed too small to carry their heavy weights to the sky, emus and cassowaries are also flightless. Nevertheless, emus and cassowaries don't mind this drawback, because they swim well, run fast (more than 30 miles per hour), and jump high (5 feet)!



² Despite many similarities, there are several subtle differences between emus and cassowaries. First and foremost is cassowaries' gray helmets (called "casques"). We cannot be sure what cassowaries use their casques for. Some scientists think that casques protect cassowaries' heads from getting scratched and bumped when they run through dense tropical forests. Others disagree and point out that if this theory were true, then cassowaries would have casques since birth, not just when they are close to the adulthood. Scientists that oppose the "protective gear" view believe that cassowaries use their casques to indicate their age, to exercise dominance, or to intimidate their enemies.

³ Wattles mark the second major difference between emus and cassowaries. Emus have no wattles, but two out of three cassowary species do. Since the cassowary species that resides in Australia has two wattles dangling at its throat, you can easily tell if the bird that you encounter in Australia is an emu or a cassowary. While the southern cassowary (or the double-wattled cassowary) lives in both Australia and New Guinea, the northern cassowary (or the single-wattled cassowary) and the dwarf cassowary live exclusively in New Guinea.

⁴ Aside from the presence of casques and wattles, emus and cassowaries choose to live in different environments and have different diets. Emus live in Australian grasslands. They mainly feed on grasses, roots, seeds, fruits, or other vegetation. Because emus often intrude on farmlands to look for food, Australian farmers dislike them and consider these feathery giants to be pests! Contrary to emus, cassowaries prefer to live in rain forests and love to eat fruits that have fallen to the ground. Both emus and cassowaries supplement their diet with insects and other small animals.

⁵ The last difference between emus and cassowaries lies in their feet. Though both emus and cassowaries have three sharp claws on each of their long and muscular feet, cassowaries' inner claws are long (about 4 inches), straight, and knife-like. When threatened, both emus and cassowaries will not hesitate to kick their enemies. Yet, cassowaries' dagger-like inner claws not only can inflict more serious wounds, but also can prove deadly!

Name _____



Date _____

Emus & Cassowaries

<p>1. Which of the following is the world's largest bird?</p> <p><input type="radio"/> A The rhea</p> <p><input type="radio"/> B The ostrich</p> <p><input type="radio"/> C The emu</p> <p><input type="radio"/> D The cassowary</p>	<p>2. Which of the following two birds compete for the title of the world's second largest bird?</p> <p><input type="radio"/> A The ostrich and the emu</p> <p><input type="radio"/> B The emu and the cassowary</p> <p><input type="radio"/> C The cassowary and the rhea</p> <p><input type="radio"/> D The ostrich and the rhea</p>
<p>3. All three species of the cassowary can be found in Australia and New Guinea.</p> <p><input type="radio"/> A True</p> <p><input type="radio"/> B False</p>	<p>4. Which of the following about emus is true?</p> <p><input type="radio"/> A Emus have casques on the top of their heads.</p> <p><input type="radio"/> B Farmers in Australia consider emus to be pests.</p> <p><input type="radio"/> C Emus have a single wattle hanging at their throats.</p> <p><input type="radio"/> D Emus have two wattles hanging at their throats.</p>
<p>5. Which of the following about cassowaries is true?</p> <p><input type="radio"/> A Cassowaries' inner toes have long, straight, dagger-like claws.</p> <p><input type="radio"/> B The northern cassowary is the only cassowary species that lives in Australia.</p> <p><input type="radio"/> C The dwarf cassowary is also known as the single-wattled cassowary.</p> <p><input type="radio"/> D Cassowaries mainly feed on insects and small animals.</p>	<p>6. Cassowaries can do all the following, except _____.</p> <p><input type="radio"/> A Swim</p> <p><input type="radio"/> B Run</p> <p><input type="radio"/> C Fly</p> <p><input type="radio"/> D Jump</p>
<p>7. What do scientists think the purpose of cassowaries' casques is? (Please choose two of the best answers.)</p> <p><input type="radio"/> A To protect their heads.</p> <p><input type="radio"/> B To indicate their ages.</p> <p><input type="radio"/> C To indicate their sexes.</p> <p><input type="radio"/> D To attack their enemies.</p>	<p>8. Where can you find emus?</p> <p><input type="radio"/> A Deserts in Australia</p> <p><input type="radio"/> B Rain forests in Australia</p> <p><input type="radio"/> C Mountains in Australia</p> <p><input type="radio"/> D Grasslands in Australia</p>
<p>9. What is emus' and cassowaries' self-defense strategy?</p> <p><input type="radio"/> A They bark.</p> <p><input type="radio"/> B They kick.</p> <p><input type="radio"/> C They pretend to be dead.</p> <p><input type="radio"/> D They climb.</p>	<p>10. Which of the following about emus and cassowaries is not true?</p> <p><input type="radio"/> A Both emus and cassowaries can jump more than 5 feet high.</p> <p><input type="radio"/> B Both emus and cassowaries can run more than 30 miles per hour.</p> <p><input type="radio"/> C Both emus and cassowaries eat insects and small animals.</p> <p><input type="radio"/> D Both emus and cassowaries are considered to be pests.</p>

Platypuses



¹ Can you picture an animal that has a beak shaped like a duck's, a tail that resembles a beaver's, and a bone structure that is similar to a reptile's? Oh, did I also mention that this strange-looking animal lays eggs? Well, if you have a hard time depicting what this animal may look like, you are not alone.

² When the British settlers in Australia had their first encounter with the platypus in 1797, they could not believe what they found. Was the platypus a bird, a mammal, or a reptile? Upon learning about the discovery and examining the specimen, scientists back in England discredited it as a fraud. Suspecting that the presented specimen was made by stitching many different animals' body parts together, one scientist even used a pair of scissors to try to pry the "duck's beak" off the specimen! This very first platypus specimen, with scissor marks still visible, is preserved and on display in the British Museum of Natural History in London.



³ After many lengthy debates that lasted for almost a century, scientists finally confirmed that the platypus is a mammal. They classified it, along with the other two egg-laying mammal species (the short-beaked echidna and the long-beaked echidna), as monotremes.

⁴ Living solitarily along riverbanks or lakeshores, platypuses can only be found in eastern Australia. Adult platypuses are about 18 inches long and weigh around 2 pounds. They usually spend their daytime hours hiding in their tunnel-like underground homes (or burrows) and only come out to search for food as night falls. Platypuses are superb swimmers and divers, and they have the perfect outfit for both aquatic exercises! Platypuses wear two layers of fur coats - a waterproof outer jacket that functions like a wetsuit, and a wooly undercoat that keeps them warm. Aside from their well-designed swimsuit, platypuses have webbed feet that help them to maneuver in the water.

⁵ Platypuses have webbing extending and covering the entire area of their front legs, but only a partial area of their hind legs. They rely on their front legs to propel and paddle and their hind legs to steer and balance. All four legs have claws. When platypuses travel on land, they fold back their webs to reveal their sharp claws. Platypuses use their claws for digging tunnels, walking, anchoring on a submerged object (such as a rock), or cleaning their fur.

⁶ Interestingly, when platypuses swim, they close their eyes, nostrils, and ears. So, how can they know where they should go to find food - crayfish, shrimps, worms, tadpoles, fish, and insect larvae? Well, platypuses' soft, blue-gray colored beaks contain about 850,000 receptors that pick up electric signals sent out, uncontrollably and unknowingly, by all animals through their muscles and nerves. Hence, even though platypuses cannot see where they are heading, they have no problem pinpointing the location of their next meal!

⁷ Platypuses don't eat their victim immediately after they catch it. Instead, they put the food away in their cheek pouches and resume hunting. After they gather enough food, they return to the surface and grind it with rows of horny, ridged plates on their jaws. (Adult platypuses do not have teeth.) Platypuses have an amazing appetite. The amount of food they eat a day is equivalent to their own body weight! Platypuses store extra fat in their flat tails and consume it when they cannot hunt or food supply is limited.

⁸ Platypuses breed once a year from June to October. When a male platypus wants to discourage other rival males from pursuing his mate, he will not hesitate using his secret weapon - a poison spur - and jabbing it into other suitors. The male platypus has two poison spurs, one on the ankle of each hind leg. While he may sometimes use his poison spurs for self-defense, he never relies on them to hunt!

⁹ A female platypus usually lays two white, soft, leathery eggs in a special nursing burrow, dug for the occasion. After about 10 days, baby platypuses hatch from their eggs and suck milk produced by their mother. Unlike other mammals, female platypuses and echidnas do not have nipples. They have mammary glands under their skin, and milk oozes out onto two patches of fur on their bellies for the young to suck up.

¹⁰ Baby platypuses are tiny and defenseless when they just hatch. About half of an inch long, they are hairless and blind. They feed on their mother's milk for the next 5 months. Shortly after they wean, they are ready to move out and establish a home of their own.

Name _____



Date _____

Platypuses

<p>1. Where can you find platypuses?</p> <p><input type="radio"/> A All over Australia</p> <p><input type="radio"/> B Eastern Australia</p> <p><input type="radio"/> C Central Australia</p> <p><input type="radio"/> D Western Australia</p>	<p>2. Platypuses hunt during the day and hide in their burrows during the night.</p> <p><input type="radio"/> A True</p> <p><input type="radio"/> B False</p>
<p>3. What did British scientists think when they first heard about the platypus?</p> <p><input type="radio"/> A They were overjoyed with the discovery of a new species.</p> <p><input type="radio"/> B They were indifferent because a specimen of the same animal collected from China was sent to them a year earlier.</p> <p><input type="radio"/> C They were doubtful but they quickly classified the animal as a mammal.</p> <p><input type="radio"/> D They were suspicious and thought that the animal was a fake.</p>	<p>4. Which of the following about platypuses' appearance is INCORRECT?</p> <p><input type="radio"/> A They have beaver-like tails.</p> <p><input type="radio"/> B They have a reptile-like bone structure.</p> <p><input type="radio"/> C They have dog-like legs.</p> <p><input type="radio"/> D They have duck-like beaks.</p>
<p>5. Adult platypuses don't have teeth. They grind food with the ridged plates on their jaws.</p> <p><input type="radio"/> A True</p> <p><input type="radio"/> B False</p>	<p>6. How does a male platypus drive away other rival males during the breeding season?</p> <p><input type="radio"/> A He bites other rival males.</p> <p><input type="radio"/> B He whips other rival males with his flat tail.</p> <p><input type="radio"/> C He jabs his poison spurs into other rival males.</p> <p><input type="radio"/> D He shouts at other rival males.</p>
<p>7. Which of the following about platypuses is true?</p> <p><input type="radio"/> A They swim with their eyes and nostrils closed, but their ears open.</p> <p><input type="radio"/> B Platypuses eat water plants.</p> <p><input type="radio"/> C Platypuses have webbed feet with sharp claws.</p> <p><input type="radio"/> D Female platypuses do not have nipples so they cannot produce milk to feed their young.</p>	<p>8. How do platypuses hunt?</p> <p><input type="radio"/> A They rely on their acute hearing.</p> <p><input type="radio"/> B They rely on their beaks containing about 850,000 electric signal receptors.</p> <p><input type="radio"/> C They rely on their excellent eyesight.</p> <p><input type="radio"/> D They rely on their good sense of smell.</p>
<p>9. What does a female platypus feed her newborn babies?</p> <p><input type="radio"/> A Shrimps</p> <p><input type="radio"/> B Fish</p> <p><input type="radio"/> C Milk</p> <p><input type="radio"/> D Insect larvae</p>	<p>10. Which of the following statements about platypuses is true?</p> <p><input type="radio"/> A There are three species of monotremes - platypuses, echidnas, and kiwis.</p> <p><input type="radio"/> B When platypuses catch a fish, they store it in their cheek pouches first and eat it after they go to the surface.</p> <p><input type="radio"/> C Platypuses store extra fat in their cheek pouches and consume it when they cannot hunt or the food supply is limited.</p> <p><input type="radio"/> D Platypuses live along riverbanks or lakeshores of eastern Austria.</p>