

FAMILY ADVENTURES WITH MATH & SCIENCE

Dear Parents and Caregivers:

We hope that you and your family enjoy the activities developed by the *Family Adventures in Mathematics, Engineering, and Science* (FAMES) project with funds provided by Mr. Henry Zarrow, the Oklahoma Department of Libraries, and the Coalition for the Advancement of Science and Mathematics Education in Oklahoma (CASMEO).

These activities are meant to make learning fun. In the event any of the activities become frustrating for you or your child, we encourage you go on to another activity. The most important educational experience for your child is to interact in an enjoyable setting with you.

The activities are grouped into three categories (simple, moderate, and challenging) and are intended for children ages 3 through 10. The *simple* activities have a circle (•) symbol; the *moderate* activities have a diamond (◊) symbol; and the *challenging* activities have a square (◻) symbol.

Since children are wonderfully diverse in their interests and abilities, please review all the activities to decide which would be appropriate for your child. Many times older children enjoy doing the simpler activities and sometimes the younger children are interested in parts of the challenging activities. Once again, we encourage you to use these activities to have fun.

Sincerely,

*Coalition for the Advancement of Science and
Mathematics Education in Oklahoma
(CASMEO)*

FAMILY ADVENTURES WITH MATH & SCIENCE

Family Adventures with . . . DINOSAURS *Simple Activities*

Read *Dinosaurs* by Grace Maccarone. Which dinosaur do you like best and why?

Play the **Dinosaur Memory Match** game to learn the names of the dinosaurs and practice concentration and memory skills. Use the **stencils** located in the kit to make your own set of matching cards.

Learn the names and some facts about the small **plastic dinosaurs** located in the kit. The names can be found on each dinosaur...look carefully!

Draw a picture using the dinosaur **stencils** located in the kit.

Look at the feet of the **plastic dinosaurs** or walk the **plastic dinosaurs** in modeling clay or dough to make imprints of their feet. Are the feet different? Why?

Put in order the dinosaurs found on the **poster** from smallest to longest by length.

FACT: A *Paleontologist* is a scientist who studies the forms of life existing in former geologic periods, as represented by fossil animals and plants (i.e., studies dinosaurs). An *Archeologist* is a scientist who studies the historic or prehistoric peoples and their cultures by analysis of their artifacts, inscriptions, and monuments.

Visit a museum like the Sam Noble Oklahoma Museum of Natural History in Norman to learn more about dinosaurs. A list of museums is provided in this folder.

Check out other books related to dinosaurs at your local library. *DinoMania – Things To Do With Dinosaurs* by Mick Manning and Brita Granstrom is a book with arts and crafts and other ideas to do at home and should be available at your local library.

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Family Adventures with . . . DINOSAURS *Moderate Activities*

Read *Oh Say Can You Say Di-no-saur?* by Bonnie Worth. Discuss how dinosaurs are alike and how they are different. Consider what they ate (carnivore vs. herbivore), how they walked (on four feet vs. two feet), and the type of foot (number of toes, claws, etc.).

Pretend to be an herbivore. Put some small sticks, grass or leaves in an empty plastic pop bottle. Add a little water and some small rocks. Put the cap on it and shake hard for as long as you can. What happened to the sticks, grass and leaves? Could this be what it looked like in the belly of a herbivore?

Watch the *The Magic School Bus: The Busarus* video.

What period in time did the Magic School bus visit?

What kind of dinosaur did the class see first?

What kind of dinosaur stole Dr. Skeledon's egg?

Name as many plant-eating dinosaurs as you can from the video.

How do scientists figure out which dinosaurs were herbivores and which ones were carnivores?

Use the small **plastic dinosaurs** located in the kit to arrange in order of smallest to largest based on the actual sizes of the dinosaurs. (Discuss first whether to use length, height, or weight as the measure of size and then use the data sheet located in this folder.)

Read *How Big Were the Dinosaurs? Gigantic!* by Patrick O'Brien. For any chosen dinosaur, try to create as many true sentences as possible comparing the dinosaurs to familiar items:

This dinosaur is as big as a ...

This dinosaur is bigger than a ...

This dinosaur is smaller than a ...

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Family Adventures with . . . DINOSAURS *Challenging Activities*

- Read *Did Dinosaurs Live in Your Backyard? Questions and Answers About Dinosaurs* by Melvin and Gilda Berger. Write three new questions that you have about dinosaurs. Use other books, resources or the Internet to see if you can locate the answers to your questions.
- Compare your weight to a dinosaur's weight. How many of you would it take to weigh the same as a 2 ton *Tenontosaurus* or *Stegosaurus* (1 ton equals ??? pounds). Use the **tape measure** located in the kit to measure your height. Compare your height to the height of a specific dinosaur using the same method (how many of you would it take?).
- Use the **tape measure** located in the kit to measure the dimensions of the **plastic dinosaurs** located in the kit and compare with the data sheet located in this folder. Are the plastic dinosaurs made to scale?
- Pretend to be a paleontologist and piece together a dinosaur. Use the **puzzle pieces** in the kit and try to assemble a complete dinosaur. (Note to parents: We have purposely removed the picture of the puzzle to make the experience more realistic. In addition, it is not necessary for all the pieces to be there since real paleontologists do not always have all the pieces either. **Hint:** The puzzle is in the shape of a *Tyrannosaurus Rex*).
- Make your own fossils: Place clean chicken or turkey bones in wet sand to make an imprint (or mold). Remove the bones and pour plaster of Paris into the imprint (or mold). Let it harden and then remove from the sand. Be sure to label your fossil.
- Make a chart comparing dinosaurs to existing animals. For example: how are an *Apatosaurus* and an elephant similar and how are they different? What existing animals are the most similar to certain dinosaurs? (Think about what they eat, how they move, etc.)

Dinosaur Data Sheet

Triceratops (Tri-SER-ah-tops)

Means “horrible three-horned face”
or “three-horned face”
Herbivore (plant-eater)
Length—30 feet
Height—7 feet tall at the hips
Weight—6-12 tons

Brachiosaurus (BRAK-e-o-SOR-us)

Means “arm lizard”
Herbivore (plant-eater)
Length—80-85 feet
Height—23 feet tall at hips
Weight—33-88 tons

Styracosaurus (sty-RAK-oh-SOR-us)

Means “spiked lizard”
Herbivore (plant-eater)
Length—18 feet
Height—6 feet tall
Weight—3 tons

Stegosaurus (STEG-o-SOR-us)

Means “roof lizard” or
“plated lizard”
Herbivore (plant-eater)
Length—26-30 feet
Height—9 feet tall at hips
Weight—6,800 pounds

Ceratosaurus (ser-RAT-uh-SOR-us)

Means “horned lizard”
Carnivore (meat-eater)
Length—15-20 feet
Weight—up to a ton

Euoplocephalus (you-OH-plo-kef-ah-luss)

Means “well-armored head”
Herbivore (plant-eater)
Length—20 feet
Height—1.8 meters
Weight—2 tons

Velociraptor (vuh-LOSS-ih-RAP-tor)

Means “speedy thief”
Carnivore (meat-eater)
Length—5-6 feet
Height—3 feet tall at hips
Weight—15-33 pounds

Spinosaurus (SPINE-o-SOR-us)

Means “spiny lizard”
Carnivore (meat-eater)
Length—40-50 feet
Height—16 Feet
Weight — 4 tons or more

Pachycephalosaurus (pack-I-KEF-al-oh-SOR-russ)

Means “thick-headed lizard”
Herbivore (plant-eater)
Length—15 feet
Height—6 meters
Weight—950 pounds

Apatosaurus (a-PAT-o-SOR-us)

Means “deceptive lizard”
Herbivore (plant-eater)
Length—70-90 feet
Height—10-15 feet tall at hips
Weight—33-38 tons

Parasaurolophus (PAR-a-saw-ROL-o-fus)

Means “like crested lizard”
Herbivore (plant-eater)
Length—40 feet
Height—9 feet tall at hips
Weight—2 tons

Please complete one of the evaluation pages so we can have your input.

Family Adventures with Math and Science (FAMES)

Evaluation

For questions 1 & 2, please circle the statement that is closest to your opinion.

1. I learned some new ideas using the kit.

strongly disagree

disagree

agree

strongly agree

2. I would like to use other kits like these.

strongly disagree

disagree

agree

strongly agree

For questions 3 & 4, please write your comments in the space provided. Use the back of the page if more space is needed.

3. What did you like best in the kit?

4. What did you like least in the kit?

**Thank you for your input!
Leave the evaluation in the learning folder or give it to
the children's librarian.**