

FROM MOLECULES TO ORGANISMS

Structure and Processes

Materials Needed:

Materials Needed: Potato or Styrofoam balls, pipe cleaners, construction paper, scissors, pompoms, or other creative items. If desired a fancy many-sided die labeled with various animals.

Procedure:

Start with a couple of “What do you get when you cross” jokes, such as What do you get when you cross a giraffe with a turtle? (A turtle neck). What do you get when you cross Godzilla with a parrot? (I don’t know, but when it asks for a cracker, you better give it to them.) What do you get when you cross an elephant and a kangaroo? (big holes all over Australia.) etc.

Start a discussion of why these jokes are funny and what the characteristics of the “parent” animals are that are so recognizable. Ask for the students to give you a list of animals and their distinguishing characteristics.

Continue the discussion of what characteristics are for an animal to live in water, fly in the air, or live on land. Can the students give you a list of characteristics needed by a fish that flies? A bird that swims? An animal that lives on land and in the water? Have the students think about what characteristics the various animals use for

protection, breathing, moving, growing, communicating, and reproducing.

Pass out pre-printed paper, see attachment, that has 4 columns labeled Characteristics, Father, Offspring, and Mother. Under the Characteristics have the following labels with spaces for the children to write between them. Looks, Protection, Breathing, Moving, Growing, Communicating, and Reproducing.

Lead the children in a discussion of each of the characteristics giving examples of different adaptations to each of the characteristics. (See second attachment.) Have the students choose an animal to be the “Father” and an Animal to be the “Mother”. Have the students determine the characteristics in the left hand column for the Father and the Mother.



Extension

For More Information Contact:
Bill Decker
4-H Discovery Programs Educator
wdecker@purdue.edu

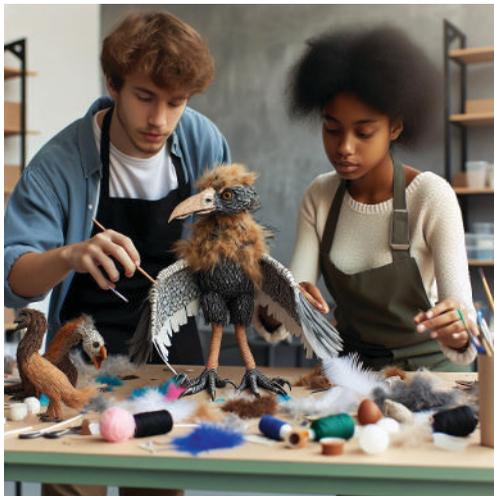
4TH GRADE 4-H

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Alternately have the students roll the die to determine what the “Father” and “Mother” of their monster “offspring” will be. Then have the students determine what the characteristics of the monster offspring will be. Alternately, the students can decide what the characteristics of their Monster “Offspring” will be and then figure out what the “Father” and “Mother” of this monster offspring would have to be to get these characteristics.

After the students have determined what the characteristics of their monster offspring will be, have them draw the monster offspring and the parents

Have them make the monsters with materials available. Have the students explain to the class who the parents are, what their characteristics are, and what characteristics their monster offspring have.



Extension

Indiana Standards:

4-LS1-1 Essential Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction

4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways



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Characteristics	Father	Offspring	Mother
Looks			
Protection			
Breathing			
Moving			
Growing			
Communicating			
Reproducing			

Characteristics

Looks

- Body type
- Body Covering
- Appendages
- Teeth
- Sensory Organs
- Skeleton type

Protection

- Camouflage
- Teeth/claws
- Oder
- Throw Quills
- Speed

Breathing

- Air
- Gills
- Water

Moving

- Walk
- Hop
- Slither
- Fly
- Swim
- Multiple

Growing

- Shed Skin
- Continuous
- Carnivore
- Herbivore
- Omnivore

Communication

- Sounds
- Body Language
- Smells

Reproduction

- Live offspring
- Eggs
- Parental care
- Pouches