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Arizona
State Director Contacted About Submission: Yes
Pilot Test Scheduled: March 5, 2020 Arizona State Tournament B & C

Chiropterology (Bats)

PROPOSED EVENT CATEGORY: Life Science

PROPOSED EVENT DIVISION: Division B – Grades 6-9, Division C – Grades 9-12

NEXT GENERATION SCIENCE STANDARDS ADDRESSED: MS-LS 1-4., MS-LS 4-2., MS-LS 4-3

1. **DESCRIPTION:** Participants will be assessed on their knowledge of bats, with an emphasis on North American Bats, South American Microbats, and African MegaBats.
2. **A TEAM OF UP TO:** 2 **EYE PROTECTION:** None **IMPOUND:** No
APPROXIMATE TIME/EVENT TIME: 50 minutes
3. **EVENT PARAMETERS:**
 - a. Each team may bring one 2” or smaller three-ring binder, as measured by the interior diameter of the rings, containing information in any form and from any source. Sheet protectors, lamination, tabs and labels are permitted in the binder.
 - b. If the event features a rotation through a series of stations where the participants interact with samples, specimens or displays; no material may be removed from the binder throughout the event.
 - c. In addition to the binder, each team may bring one unmodified and unannotated copy of either the National Bat List or an Official State Bat list which does not have to be secured in the binder.
4. **THE COMPETITION:**
 - a. The competition may be run as timed stations and/or as timed slides/PowerPoint presentation.
 - b. Specimens/Pictures will be lettered or numbered at each station. The event may include preserved specimens, skeletal material, and slides or pictures of specimens.
 - c. Each team will be given an answer sheet on which they will record answers to each question.
 - d. No more than 50% of the competition will require giving common or scientific names.
 - e. Participants should be able to do a basic identification to the level indicated on the Official List. States may have a modified or regional list. See your state website.
 - f. Stated may have a modified state or regional list which will be posted on the state website no later than November 1.
 - g. The National Competition will be based on the 2020 National Bat List.
 - h. Each specimen will have one or more questions accompanying it on some aspect of its life history, distribution, anatomy & physiology, reproduction, habitat characteristics, ecology, diet, behavior, conservation, and biogeography.
 - i. The ecology questions may pertain to any ecological aspect of the species, including behavior, habitat, niche, symbiotic relationships, trophic level, adaptive anatomy such as ear shape and wing size, migration, distribution or occurrence (i.e. rare, common, special concern), diseases they may be prone to (i.e. White Nose Disease) and diseases for which they may be transmission vectors such as rabies.
5. **SAMPLE TASKS/STATIONS/QUESTIONS:**
 - a. Identify the order, family, and or genus of the provided sample.
 - b. What conclusion can be drawn about the habitat of the given specimen?
 - c. Consider the potential impact of human activities on the survival of bats?

6. **SCORING:**

- a. High Score Wins
- b. Selected questions can be used as tiebreakers.

7. **RECOMMENDED RESOURCES:** *Field Guide - Bats of the United States and Canada* 1st Edition, Kindle Edition by Michael J Harvey (Author), J. Scott Altenbach (Author), Troy L. Best (Author)
<https://www.csu.edu/cerc/researchreports/documents/BatsActivityGuide.pdf>

Bat List Updated 9-17-2021

Kingdom: ANIMILIA Phylum: CORDATA Subphylum: VERBRATA Class: MAMMALIA Order Chiroptera

Common name	Scientific Name	Common name	Scientific Name
Alcathoe bat	<i>Myotis alcathoe</i>	Long-eared myotis	<i>Myotis evotis</i>
Allen's big-eared bat	<i>Idionycteris phyllotis</i>	Long-legged myotis	<i>Myotis volans</i>
Big brown bat	<i>Eptesicus fuscus</i>	Lyle's flying fox	<i>Pteropus lylei</i>
Big free-tailed bat	<i>Nyctinomops macrotis</i>	Madagascan flying fox	<i>Pteropus rufus</i>
Broad-eared bat, or broad-tailed bat	<i>Nyctinomops laticaudatus</i>	Mariana fruit bat	<i>Pteropus mariannus</i> <i>Tadarida brasiliensis mexicana</i>
Brown mastiff bat	<i>Promops nasutus</i>	Mexican free-tailed bat	<i>Choeronycteris mexicana</i>
Buettikofer's epauletted fruit bat	<i>Epomops buettikoferi</i>	Mexican long-tongued bat	<i>Vampyressa thuyone</i>
California leaf-nosed bat	<i>Macrotus californicus</i>	Northern little yellow-eared bat	<i>Myotis septentrionalis</i>
California Myotis	<i>Myotis californicus</i>	Northern long-eared bat or northern myotis	<i>Lasiurus intermedius</i>
Cave myotis	<i>Myotis velifer brevis</i>	Northern yellow bat	<i>Myotis lucifugus occultus</i>
Chapin's Free-Tailed Bat	<i>Chaerephon chapini</i>	Occult little brown bat (Arizona Myotis)	<i>Molossus molossus</i>
Cinnamon dog-faced bat	<i>Cynomops abrasus</i>	Pallas' Mastiff Bat (Velvety Free-tailed bat)	<i>Glossophaga soricina</i>
Common noctule	<i>Nyctalus noctula</i>	Pallas's long-tongued bat	<i>Antrozous pallidus</i>
common vampire bat	<i>Desmodus rotundus</i>	Pallid bat	<i>Platymops setiger</i>
Corben's long-eared Bat	<i>Nyctophilus corbeni</i>	Peters's flat-headed bat	<i>Myotis ater</i>
Davies's big-eared bat or the graybeard bat	<i>Glyphonycteris daviesi</i>	Peters's myotis or small black myotis	<i>Lasiurus pfeifferi</i>
Desert red bat	<i>Lasiurus blossevillii</i>	Pfeiffer's red bat	<i>Niumbaha superba</i> <i>Nyctinomops femorosaccus</i>
Dobson's epauletted fruit bat	<i>Epomops dobsonii</i>	Pied bat or badger bat	<i>Corynorhinus rafinesquii</i>
Dwarf dog-faced bat	<i>Molossops temminckii</i>	Pocketed free-tailed bat	<i>Lasiurus borealis</i>
Eastern (Queensland) tube-nosed bat	<i>Nyctimene robinsoni</i>	Rafinesque's Big-eared bat (Southeastern Big-eared bat)	<i>Lasiurus seminolus</i>
Eastern Pipistrelle / Tricolored bat	<i>Perimyotis subflavus</i>	Red Bat	<i>Eptesicus serotinus</i>
Eastern red bat	<i>Lasiurus borealis</i>	Seminole bat	<i>Lasionycteris noctivagans</i>
Eastern small-footed myotis	<i>Myotis leibii</i>	Serotine bat	<i>Myotis austroriparius</i>
Eastern water bat or Sakhalin bat	<i>Myotis petax</i>	Silver-haired bat	<i>Leptonycteris curasoae</i>
Evening bat	<i>Nycticeius humeralis</i>	Southeastern Bat	
Fish-eating bat	<i>Myotis vivesi</i>	Southern Long-nosed bat or Lesser long-nosed bat	

Common name	Scientific Name	Common name	Scientific Name
Florida bonneted bat	<i>Eumops floridanus</i>	Southern yellow bat	<i>Lasiurus ega</i>
Fringed myotis	<i>Myotis thysanodes</i>	Southwestern Bat	<i>Myotis auriculus</i>
Geoffroy's bat	<i>Myotis emarginatus</i>	Southwestern myotis	<i>Myotis auriculus</i>
Ghost bat	<i>Macroderma gigas</i>	Spix's disk-winged bat	<i>Thyroptera tricolor</i>
Ghost-faced bat	<i>Mormoops meglophylla</i>	Spotted bat	<i>Euderma macalatum</i>
Golden-mantled flying fox	<i>Pteropus pumilus</i>	Tent-making bat	<i>Uroderma bilobatum</i>
Gray Bat	<i>Myotis grisescens</i>	Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Greater horseshoe bat	<i>Rhinolophus ferrumequinum</i>	Tropical big-eared brown bat	<i>Histiotus velatus</i>
Greater Long-nosed Bat	<i>Leptonycteris nivalis</i>	Underwood's mastiff bat	<i>Eumops underwoodi</i>
Greater mouse-tailed bat	<i>Rhinopoma microphyllum</i>	Wagner's bonneted bat (Wagner's mastiff bat)	<i>Eumops glaucinus</i>
Greater short-nosed fruit bat .	<i>Cynopterus sphinx</i>	Welwitsch's bat	<i>Myotis welwitschii</i>
Greater western mastiff bat	<i>Eumops perotis californicus</i>	Western barbastelle	<i>Barbastella barbastellus</i>
Grey-headed flying fox	<i>Pteropus poliocephalus</i>	Western long-eared bat	<i>Myotis evotis</i>
Hairy fruit-eating bat	<i>Artibeus hirsutus</i>	Western Mastiff Bat	<i>Promops nasutus</i>
Hammer-headed bat	<i>Hypsignathus monstrosus</i>	Western pipistrelle or canyon bat	<i>Parastrellus hesperus</i>
Hoary bat	<i>Lasiurus cinereus</i>	Western red bat	<i>Lasiurus blossevillii</i>
Hodgson's bat or the copper-winged bat	<i>Myotis formosus</i>	Western small-footed myotis	<i>Myotis ciliolabrum</i>
Honduran white bat	<i>Ectophylla alba</i>	Western Yellow Bat	<i>Lasiurus xanthinus</i>
Indiana Bat	<i>Myotis Sodalis</i>	Whiskered bat	<i>Myotis mystacinus</i>
Jamaican flower bat	<i>Phyllonycteris aphylla</i>	Wrinkle-faced bat	<i>Centurio senex</i>
Jamaican Fruit-eating Bat	<i>Artibeus jamaicensis</i>	Yuma myotis	<i>Myotis yumanensis</i>
Keen's myotis	<i>Myotis keenii</i>		
Kitti's hog-nosed bat	<i>Craseonycteris thonglongyai</i>		
Lesser long-nosed bat	<i>Leptonycteris yerbabuena</i>		