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| **Day One**  **60 minutes** | **Day Two**  **45 minutes** | **Day Three**  **60 -75 minutes** | **Day Four**  **50-60 minutes** |
| **Resources**   * **Endangered Species game for each team** * **Journal per student** | **Resources**   * **Book or video for introduction to bats** * **Journal per student** | **Resources**   * **Bat House Checklist** * **Final Bat House Project Rubric** * **Laptops/ipads/computer** * **Note Taking Research Template and rubric** * **Bat pollinator coloring book** * **Journal per student** | **Resources**   * **Engineering Process Worksheet** * **Bat house checklist** * **Journal per student** |
| * Introduce endangered and threatened species/Build background knowledge * Play “Endangered” species game from [www.projectwild.org](http://www.projectwild.org) * Journal Reflection: This game opened my eyes to… | * Read, discuss and identify concerns facing bats in Pennsylvania * Read Zipping, Zapping, Zooming Bats by Ann Earle (or some similar age appropriate book on bats) or watch Pennsylvania Game Commission video “Race to Save Pennsylvania Bats” a WQED production.   <https://www.youtube.com/watch?v=K_MmIIIdDmY>   * Journal Reflection: Bat populations across Pennsylvania are… | * Introduce and distribute “Bat House Challenge/Checklist,” go over “Final Project Rubric” * Go to Computer lab/use Ipads or laptops to research/ gather information for successful bat houses. Record notes using graphic organizer. * Science teams alternate use of laptops and using Bat pollinator coloring book [www.batcon.org](http://www.batcon.org). * Students and teachers fill out Note Taking/Research Rubric as an assessment * Journal Reflection: If we want bats to use our bat house, we must have… | * Use engineering design templates to begin planning process for bat house. * Provide bat house project checklist. |
| **Day Five**  **60 minutes** | **Day Six**  **60-90 minutes** | **Day Seven**  **45 minutes** |  |
| **Resources**   * **Scaling Regular Figures Worksheet** * **Grid paper** * **Bat Box Blueprint checklist** * **Journal per student** | **Resources**   * **Makedo Cardboard Construction Toolkit or other assembling tools** * **Cardboard** * **Glue** * **Journal per student** | **Resources**   * **Final reflection - Bat House** |  |
| * Introduce scale models using * Students design a bat house, drawing a blueprint to scale. * Provide blueprint checklist for groups. | * Students build bat house models using provided materials. | * Students present bat house models and their findings. Groups make suggestions for future bat house projects and complete final project reflection. * Teacher uses project rubric to grade the completed project. |  |