NC STATE UNIVERSITY

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COOPERATIVE EXTENSION

NC

HOW TO TEACH

HEARING PROTECTION USING AIR-ZOOKAS

Teach youth about hazardous noise through STEM education and the investigative process. Use this teaching tool to explore the role sound waves play in the emission of hazardous noise and help youth prevent hearing loss.

01 Mimic Sound Waves

The movement of air created by the Air-Zooka imitates how sound waves come into contact with our ear drum. Louder noises create bigger waves and a greater impact when the ear is reached. This is replicated by changing the amount of forced being used to operate the Air-Zooka.

02 Block Noise

Hearing protection devices work by blocking noise. Demonstrate this process by using the Air-Zooka, a small object and a barrier object. Place the barrier between the Air-Zooka and the small object to prevent the object from being moved.

03 Lower Volume

Turn that down! Youth hear it all the time. Imitate how loud noises can be dangerous and how lowering volume works to prevent hearing-loss. You'll need the Air-Zooka and a small object. First, release the pull-handle of the Air-Zooka with full force and knock the object over. Set it back up, then use less force when releasing the burst of air. which will cause the object to move less or not at all.

04 Create Distance

Demonstrate how the effect of the air burst is lessened by moving the Air-Zooka further away from the object you have been using. Again, the effect of this action will cause the object to move less or not at all. This demonstrates how moving away from hazardous noise is a viable shearing protection control.

05 Direct Away

Moving out of the direction of a hazardous noise is similar to moving away from it. This action lessens the impact of the exposure. Demonstrate this by aiming the Air-Zooka away from the small object to avoid hitting it with the burst of air, so that the object is not affected by the air movement.