DOLLHOUSE FIRE BEHAVIOR PROP

Connecting Fire Dynamics to the Fireground

Instructor Guide



Lesson Plan

In this lesson, participants will enhance their understanding of the fundamentals of fireground fire science through a visual demonstration on a Dollhouse Fire Behavior Prop.

Big Picture

Knowledge of how a fire grows and spreads through a structure, the impact that fuels can have on fire behavior, and the impact of isolation on the fireground is essential for firefighters to understand their working environment.

Prop Information

A Dollhouse Fire Behavior Prop is a great way for participants to visualize fire behavior concepts and tactics on a small scale for enhanced understanding. Consideration should be given to the fact that this is a small-scale prop, and fire may react more quickly than it would on the fireground. The Dollhouse Construction Plans and Basic Assembly Instructions and Build video can be found online at training.fsri.org/resources or by clicking the links below.

Download the Construction Plans

Watch the Build Video

Background Information

In order to fully understand the topics presented in this lesson, participants must have a knowledge of the fire triangle, the stages of fire development, and how fire travels from areas of higher pressure to lower pressure.

Watch the Demonstration

Key Takeaways

- A fuel's density, orientation, and chemical makeup impact fire growth and spread.
- Smoke is fuel and can pose a significant hazard on the fireground.
- Visual cues from smoke, such as its volume, velocity, and density, can indicate the conditions of a compartment.
- Isolating compartments from fire's flow path can protect those areas from fast moving smoke and heat.

Discussion

After viewing the demonstration, consider the following topics to engage your participants in a discussion.

- Discuss how your departmental policies address isolation on the fireground. This may be through door control, window-initiated search, or other means.
- Ask your participants to share their experiences related to low-intake, high-exhaust flow paths and how to address these situations to ensure the safety of victims and firefighters.

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