

”Bob thinks this but Emily thinks that”: Contrastive beliefs improve kindergartners’ scientific reasoning

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Abstract: Children have difficulty generating evidence to confirm and disconfirm hypotheses; here, we show that contrastive beliefs improve kindergartners scientific reasoning. Children saw a V-shaped ramp and two kinds of balls. The balls could be launched from a 'low' or 'high' position and land at a low or a high position on the uphill side of the ramp. We presented hypotheses, either neutrally (e.g., Maybe its the height that matters for where the ball lands, or maybe its the kind of ball) or as contrastive beliefs (e.g., Bob thinks its the height that matters Emily thinks its the ball). Children were allowed to play freely for 60 seconds. Children generated exhaustive evidence (suggesting no differences in motivation) in both conditions. However, when later asked to ”show that the height of the ball matters and the kind of ball does not,” children generated appropriate evidence only in the beliefs condition.