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| --- | --- | --- | --- | --- | --- | --- |
| **Broad category 1** | **Refining category 1** | **Refining category 2** | **Description (grey: categories that Christoph suggested)** | **Appearances in child dataset** | **Problem-solving score** | **Reasoning for problem-solving score given** |
| No success | Focus on tube only | No/little interaction | no success within 10 min, child doesn’t touch any materials or only touches tube from outside | 4 | 0 |  |
| hand | 0: no success within 10 min, child only tries to retrieve the sticker with hand | 12 | 1 | No tool use, no other strategies, is perseverating |
| Short stick | 1: no success within 10 min, child only tries to retrieve the sticker with the short stick | 23 | 2 | Uses tool use as a strategy, but does not disengage |
| + focus on tool boxes | Distractor tool – hand | X: no success within 10 min, child tried to retrieve a distractor tool with hand | 3 | 3 | acknowledges need for another tool than the short stick |
| Distractor tool – short stick | X: no success within 10 min, child tried to retrieve a distractor tool with short stick | 2 | 3 |
| Hose - hand | X no success within 10 min, child tried to retrieve the hose with hand | 2 | 4 | acknowledges need for another tool than the short stick and recognizes the correct tool needed |
| Hose – short stick | X: no success within 10 min, child tried to retrieve the hose with short stick | 5 | 4 |
| + focus on tool boxes + got a tool from tool boxes | Distractor tool only – hand | X: no success within 10 min, child retrieved an incorrect candidate tool with hand | 2 | 5 | acknowledges need for another tool than the short stick and is perseverating enough to get tool out of the box |
| Distractor tool only – short stick | 2: no success within 10 min, child retrieved an incorrect candidate tool with short stick |  | 5 |
| Hose (among others) - hand | X: no success within 10 min, but child retrieved hose with hand (among other ones) |  | 6 | acknowledges need for another tool than the short stick, recognizes the correct tool needed, and is perseverating enough to get tool out of the box |
| Hose (among others) – short stick | 3: no success within 10 min, but child retrieved hose with tool (among other ones) |  | 6 |
| Hose (among others) – short stick – hose retrieved first | 4: no success within 10 min, child retrieved correct tool first |  | 7 | acknowledges need for another tool than the short stick, recognizes immediately the correct tool needed, and is perseverating enough to get tool out of the box |
| + focus on tool boxes + got a tool from tool boxes + used it on tube | Distractor tool only – hand – use on tube | X: no success within 10 min, child retrieved a distractor tool with hand and used it on tube | 2 | 8 | a acknowledges need for another tool than the short stick, is perseverating enough to get tool out of the box, and uses it on tube |
| Distractor tool only – short stick – use on tube | X: no success within 10 min, child retrieved a distractor tool with short stick and used it on tube | 2 | 8 |
| Hose (among others) – hand – use on tube | No success within 10 min, child retrieved hose with hand and used it on tube |  | 9 | acknowledges need for another tool than the short stick, recognizes the correct tool needed, is perseverating enough to get tool out of the box, and uses it on tube |
| Hose (among others) – short stick – use on tube | 5: No success within 10 min, child retrieved hose with short stick and used it on tube |  | 9 |
| Hose (among others) – short stick – hose retrieved first – use on tube | 6: no success within 10 min, child retrieved correct tool first and used it on the tube |  | 10 | acknowledges need for another tool than the short stick, recognizes immediately the correct tool needed, and is perseverating enough to get tool out of the box, and uses it on tube |
| Success |  |  | 7: success with some trial an error, | 5 | 11 | acknowledges need for another tool than the short stick, recognizes the correct tool needed, is perseverating enough to get tool out of the box, uses it on tube, and succeeds |
| Hose was retrieved first |  | 8: success and functional tool was retrieved first (i.e. before the distractor items) | 1 | 12 | acknowledges need for another tool than the short stick, recognizes immediately the correct tool needed, and is perseverating enough to get tool out of the box, uses it on tube, and succeeds |
| Hose was retrieved first and was the first tool used on the tube |  | 9: success, functional tool was retrieved first, and the first tool that was used on the tube was the functional tool (i.e., the hose) |  | 13 | acknowledges need for another tool than the short stick, recognizes immediately the correct tool needed, and is perseverating enough to get tool out of the box, immediately uses it on tube, and succeeds |

+ Incorrect success (12x)

* ID 140: Inserts stick in tube, tries to get long stick with hand, tries to get rope with hand, gets hose with hand and inserts in tube, gets sticker 🡪 11 points?
* ID 116: gets hose with hand and inserts in tube, gets sticker 🡪 13 points?
* ID 120, 26, 21: inserts stick in tube, blows sticker out (3x) 🡪 dropout
* ID 122: tries to get rope with hand, gets long stick with hand and inserts into tube, inserts short stick in tube, gets rope with hands and inserts into tube, gets hose with hand and inserts into tube, gets sticker 🡪 11 points?
* ID 71: inserts stick in tube, gets long stick with hand and inserts in tube, gets rope with hand, gets hose with hand and inserts in tube, gets sticker 🡪 11 points?
* ID 72: gets rope with hand and inserts in tube, gets hose with hand and inserts in tube, gets sticker 🡪 11 points?
* ID 68: inserts stick in tube, gets rope with hand and inserts in tube, gets hose with hand and inserts in tube, gets sticker 🡪 11 points?
* ID 20: inserts stick in tube, gets hose with hand and inserts in tube, gets sticker 🡪 12 points?
* ID 130: inserts hand in stick box, gets rope with hands and inserts in tube, gets long stick with hand and inserts in tube, gets hose with hand and inserts in tube, gets sticker 🡪 11 points?
* ID 100: inserts stick in tube, gets long stick with hand and inserts in tube, gets hose with long stick and inserts hose in tube, gets sticker 🡪 11 points?

9 dropouts (9x)

* Child did not start at side of table and was only given 5 min 3x
* Experimenter error: tube was not firmly fixed on table 1x
* Experimenter error: table was not standing on a flat surface 1x
* Experimenter error: table was standing outside, wind blew 1x
* Child did not understand instructions 1x
* Experimenter error: one of the boxes was not firmly fixed on table 2x