



## NIH Toolbox Early Childhood Cognition Battery

<b>Event Category:</b>	Time-Based
<b>Event:</b>	36M, 60M
<b>Administration:</b>	N/A
<b>Instrument Target:</b>	Child
<b>Instrument Respondent:</b>	Child
<b>Domain:</b>	Neuro-Psychosocial
<b>Document Category:</b>	Scored Assessment
<b>Mode (for this instrument*):</b>	In-Person, CAI
<b>OMB Approved Modes:</b>	Web-Based, CAI; In-Person, CAI
<b>Method:</b>	Data Collector Administered
<b>Estimated Administration Time:</b>	22 minutes
<b>Multiple Child/Sibling Consideration:</b>	Per Child
<b>Special Considerations:</b>	N/A
<b>Version:</b>	1.0
<b>MDES Release:</b>	4.0
<b>Publisher:</b>	NIH Toolbox
<b>NCS Contact:</b>	Carol Andreassen Westat 301-251-1500

\*This instrument is OMB-approved for multi-mode administration but this version of the instrument is designed for administration in this/these mode(s) only.

Public reporting burden for this collection of information is estimated to average 22 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. **An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.** Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: NIH, Project Clearance Branch, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA (0925-0593\*). Do not return the completed form to this address.

# Neuro-Psychosocial Early Childhood Cognition Battery

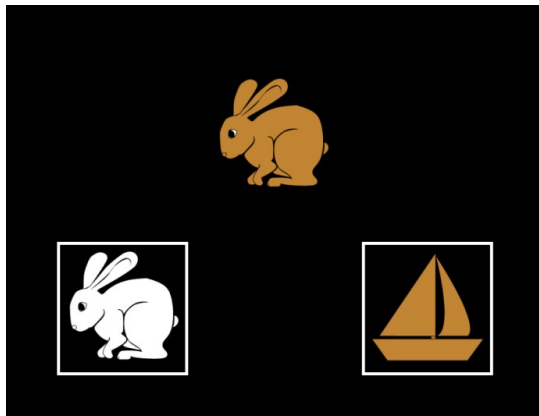
The NIH Toolbox is a research-based battery of cognitive, sensory, motor, and emotional function measures that was developed and nationally normed for ages 3-85 ([www.nihtoolbox.org](http://www.nihtoolbox.org)). During the development process special attention was devoted to ensuring that these brief measures would be developmentally appropriate for young children. The NIH Toolbox Early Childhood Cognition Battery is normed on children ages 3-6 and includes four measures that will be implemented in the National Children's Study: Dimensional Change Card Sort Test (DCCS), Flanker Inhibitory Control & Attention Test (Flanker), Picture Sequence Memory Test (PSM), and Picture Vocabulary Test. Implementing this battery of measures will yield individual measure scores and an Early Childhood Composite Score.

*EVENTS: 36-Month, 60-Month*

## NIH Toolbox Dimensional Change Card Sort (DCCS) Test

The DCCS task measures working memory, inhibitory control and set shifting skills. The measure is appropriate for ages 3-85. For this task the participant is shown target pictures that vary along the dimensions of color and shape (e.g., a white rabbit and a gold boat). After learning to sort the pictures according to one dimension (e.g., color), the participant is asked to sort the pictures according to the other dimension (e.g., shape). The administration time is about 6 minutes.

See Figure 1 for exemplar screen shot. Children's scores are determined based on their accuracy and reaction time. The measure is appropriate for ages 3-85.



**Figure 1: Screen shot that depicts the Dimensional Change Card Sort.**

### NIH Toolbox Flanker Inhibitory Control and Attention Test

The Flanker Test measures inhibition, or the ability to control impulses. The measure is appropriate for ages 3-85. In this task the participant is presented with a series of pictures on a computer screen (e.g., a row of fish). The participant is instructed to respond based on whether the middle fish is pointing to the left or right by pressing the corresponding left or right key on the mouse. On congruent trials, the flanking fish point in the same direction as the middle fish, and on incongruent trials, the flankers point in the opposite direction. The administration time is about 5 minutes.



**Figure 1: Screen shot that depicts Flanker Test.**

### NIH Toolbox Picture Sequence Memory Test

The Picture Sequence Memory Test measures the ability to recall a series of pictured objects and activities that are presented in a certain order. The length of sequences varies from 6-18 images, and increases as the test proceeds. The measure is appropriate for ages 3-85. The administration time is about 7 minutes.

### NIH Toolbox Picture Vocabulary Test

The Picture Vocabulary Test measures receptive vocabulary, which is also known as listening vocabulary: the words that an individual recognizes well enough to understand when read or heard. The measure is appropriate for ages 3-85. In this task the participant is presented with an audio prompt and series of four pictures on a computer screen. For each item, the participant is instructed to select the picture that best matches the word by clicking with a mouse. The administration time is about 4 minutes.