

# What do infants remember when they forget?

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Six-month-old babies are severely limited in what they can remember about the objects they see in the world; if you hide several objects from an infant, they will only remember one of those objects with any detail. But a new study, which will be published in an upcoming issue of *Psychological Science*, a journal of the Association for Psychological Science, finds that when babies "forget" about an object, not all is lost.

Researchers used to think that babies less than two years old did not understand that an object continues to exist when it is not currently in the baby's view. But in the mid-1980s, new ways of doing experiments with babies found that they do, in fact, know that objects don't disappear when you're not looking at them—a concept known as object permanence. But it was still unknown what babies needed to remember about objects in order to remember their existence.

Now Melissa Kibbe, of Johns Hopkins University, and Alan Leslie, of Rutgers University, are working to figure out exactly what it is that babies remember about objects. For the new study, they showed six-month-old babies two objects, a disk and a triangle. Then they hid the objects behind small screens, first one shape, then the other. Earlier research has shown that young babies can remember what was hidden most recently, but have more trouble [remembering](#) the first object that was hidden. Once the shapes were hidden, they lifted the screen in front of the first object. Sometimes they showed infants the shape that was hidden there originally, but sometimes it was the other shape, and sometimes the object had vanished completely.

Psychologists measure how long babies look at something to see how surprised they are. In Kibbe and Leslie's study, babies weren't particularly surprised to see that the shape hidden behind the screen had changed, for example, from a triangle to a disk. But if the object was gone altogether, the [babies](#) looked significantly longer, indicating surprise at an unexpected outcome. "This shows that even though infants don't remember the shape of the object, they know that it should continue to exist," Kibbe says. "They remember the object without remembering the features that identify that object."

This helps explain how the young brain processes information about objects, Leslie says. He suspects the brain has a mechanism that acts like a kind of pointer, a mental finger that points at an object. Each finger can only point to one object. "Just like a finger that points to something, you can't tell from the finger itself what the shape of the thing being pointed at is," Leslie says. "You can't tell from looking at my finger whether I'm pointing at a cat or a dog." This study shows that the mechanism in the baby's brain that remembers the object doesn't have to remember much about it.

Provided by Association for Psychological Science

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