Supplemental Figure 1: Stimuli used for the spontaneous object recognition testing in rats (Experiment 1). The top photographs show the distinct test objects used to measure object recognition following a 30 sec delay in the 'Easy' condition for Groups 1 and 2. Although the objects were similar in size, they did not share similar stimulus features. The bottom photographs show the test objects used in 'Difficult' testing condition for Groups 1 and 2. In contrast to the easy condition, these test objects were similar in size and shape. The asterisks over the objects in the left panels indicate the stimulus that was novel during the test phase of recognition testing.

Supplemental Figure 2: Stimuli used two-choice object discrimination (OD) testing with no feature overlap (Experiment 2). Photographs of the 4 pairs of junk objects used for discrimination testing in monkeys when the object pairs did not share features (0% overlap).

Supplemental Figure 3: Stimuli used two-choice object discrimination (OD) testing with feature overlap (Experiment 2). Photographs of the 8 pairs of LEGO® objects with different levels of feature overlap used for discrimination testing in

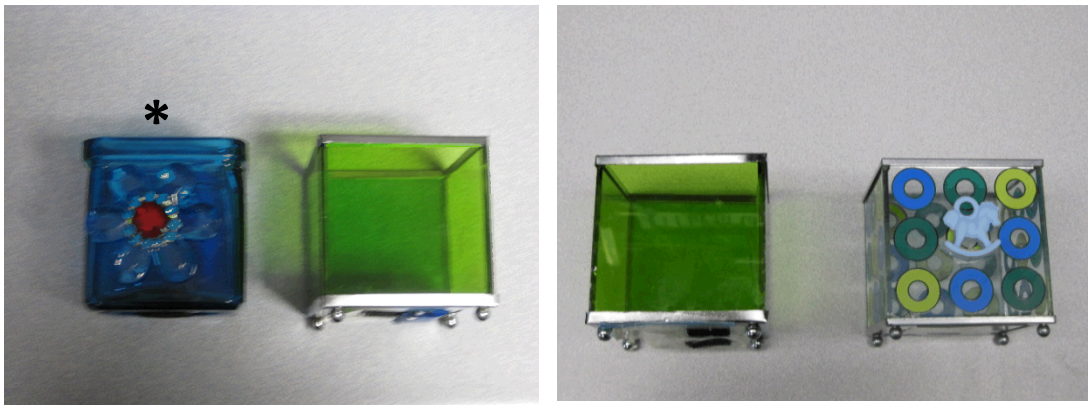
monkeys. The black numbers on each photograph indicate the percent of feature overlap calculated from the LEGO® bits.

Supplemental Figure 4: Spontaneous object recognition (SOR) task performance in Group 1 and 2 (Experiment 1). (A) The mean discrimination ratio of the adult (black) and the aged rats (grey) measured during the test phase following a 30 sec delay for the 'Easy' and 'Difficult' conditions for the rats in Group 1 (left panel), in which the novel object was not counterbalanced, and in Group 2 (right panel). **(B)** The mean amount of time young (black) and aged (grey) rats spent exploring the familiar and the novel object during the different testing conditions for Groups 1 (left panel) and 2 (right panel). The data collected with the two different groups of rats were qualitatively similar. Error bars represent +/-1 standard error of the mean.

Supplemental Figure 1

Easy

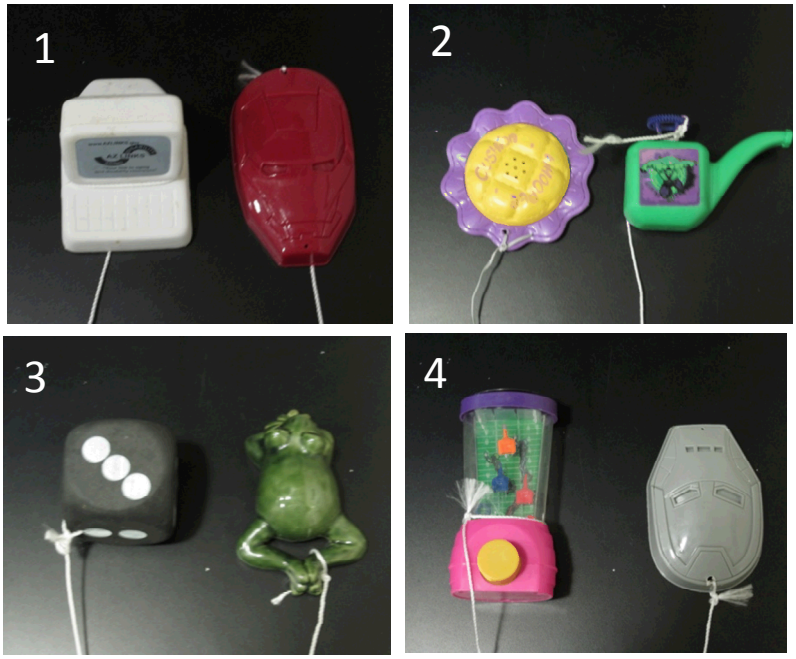
Difficult



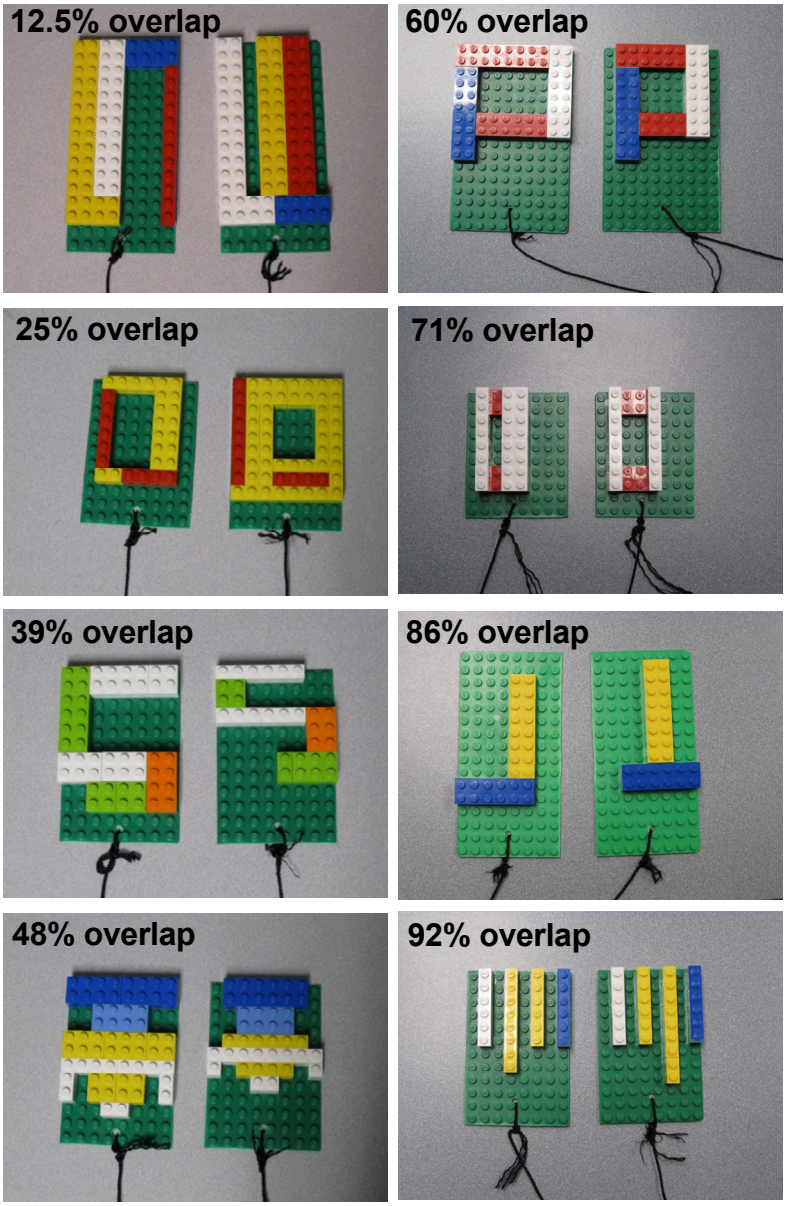
Group 1 Objects

Group 2 Objects

Supplemental Figure 2



Supplemental Figure 3



Supplemental Figure 4