Category norms for verbal items in 25 categories for children in Grades 2-6

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Three hundred and seventy-five children in Grades 2, 3, 4, and 6 were asked to generate instances of 25 different categories within a time period of 1 min per category. Data were tallied so that category instances are ranked as to proportion of subjects making each response at each grade level. Indications of the average number of category instances generated by children at each grade level within each category are provided.

In 1969, Battig and Montague published normative category information for 56 categories with adult subjects. Developmental studies of organization of memory have been dependent upon this adult normative information, with the exception of Nelson (1968, 1969), without regard to whether the use of the same normative information is appropriate. The developmental manipulation of type of list structure is, however, no doubt best based upon normative information that has also been collected developmentally.

METHOD

In the data collection, 375 children in Grades 2, 3, 4, and 6 served as subjects. The children were students at Vanderhoof Elementary School in Arvada, Colorado (82%), or members of Mile Hi Girl Scout groups in Boulder, Colorado (18%). The number of subjects in each grade (by sex) is shown in Table 1. Subjects may be generally described as members of the upper middle-class socioeconomic stratum. Data collection lasted 25 min after an initial instructional period. Instructions to the subjects were as follows: "We are going to play a word game. This is not a test. We are going to think of different kinds of things. That is, I am going to tell you a thing and you tell me all different kinds of it that you can think of. I might say, for example, 'musical instruments' and you could answer 'violin' and 'piano' and 'guitar.' You can tell me as many things as you can think of. If I said 'names' you could say 'Jane' and 'Tom' and 'Sally' and as many others as you think of. Now, if I said 'things that you study in school' what kinds of things would you say?" (Pause for verbal responses.)

"Now I want you to write down the things you can think of. Do not say any things aloud. Spelling will not count. Remember spelling will NOT count—just spell the best that you

can. When I tell you what to think about, you can start to write in your booklet, and, when I tell you to stop, we will turn the page and I will give you a new thing to think and write about. You do not have to write down what I say, only what you can think of.

"Do you have any questions?"

Subjects were provided with a 25-page test booklet and were allowed 1 min to write after each category was announced by the experimenter. After each "stop" command, subjects were asked to turn to a new page in the booklet, and the next category was announced immediately.

Twenty-five categories from the Battig and Montague (1969) norms were selected because the experimenter judged them to be easily explainable to children. In some instances, phrases rather than single words designated categories. The reader is referred to the list of categories shown in Table 2.

Subjects were run in groups ranging in size from 2 to 45 children.

RESULTS

All legible words were tallied separately for each category and each grade level. The basic data are presented in the Appendix, in terms of the proportion of subjects in each grade who made the specific response being considered. All instances of a category with a frequency of two or more are included. Singular and plural responses naming the same exemplar were combined, except where the frequencies of both forms were each substantial in their own right. Responses were not separated according to grammatical form or spelling, except in cases wherein the frequency of each of two or more different forms was greater than 10. The mean number of distinct responses to each category is provided following each category listing.

Table 2 provides information regarding the number of

Table 1
Number of Subjects in Each Grade (by Sex)

Grade	N	Female	Male
2	81	45	36
3	64	40	24
4	126	65	61
6	104	60	44

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Table 2
Number of Distinct Instances Generated per Category

Category	Grade				Mean
	2 (n = 81)	3 (n = 64)	4 (n = 126)	6 (n = 104)	
1. Fruits	26	24	27	34	28.0
2. Birds	47	63	53	67	57.5
3. Carpenter's Tools	36	60	38	66	50.0
4. Parts of the Body	47	64	65	70	61.5
5. Parts of a Building	81	110	98	123	103.0
6. Weather Phenomena	45	72	52	77	61.5
7. Places One Can Stay Away From Home	49	73	67	76	66.3
8. Kitchen Utensils	68	90	94	99	87.8
9. Vegetables	36	49	44	42	42.8
10. Sports	43	116	76	83	79.5
11. Denominations of Money	9	21	22	25	19.3
12. Footwear	30	75	49	70	56.0
13. Toys	81	146	105	142	118.5
14. Trees	46	75	51	70	60.5
15. Clothing	45	64	60	72	60.3
16. Relatives	43	58	28	43	43.0
17. Furniture	35	53	70	71	57.3
18. Crimes	44	54	51	73	55.5
19. Flowers	38	73	39	55	51.3
20. Animals	61	75	69	84	72.3
21. Insects	36	45	34	58	43.3
22. Colors	29	46	30	45	37.5
23. Vehicles and Means of Transportation	52	77	58	83	67.5
24. Ways to Measure Distance	22	58	38	55	43.3
25. Ways to Measure Time	28	54	28	58	42.0
Mean	43.08	67.84	53.84	69.64	

distinct instances generated by subjects at a given grade level for a particular category. Means for each grade and category are provided.

REFERENCES

- BATTIG, W. F., & MONTAGUE, W. E. Category norms for verbal items in 56 categories: A replication and extension of the Connecticut category norms. *Journal of Experimental Psychology Monograph*, 1969, 80, 1-46.
- NELSON, K. J. *Developmental factors in the organization of free recall*. Unpublished doctoral dissertation, University of California, Los Angeles, 1968.
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APPENDIX

Listed below are the proportions of children (Grades 2-6) generating instances of the 25 different categories. The mean number of instances is presented at the bottom of each category for each grade.

Category 1 Fruits				
Instance	Grade			
	2	3	4	6
apple	.765	.933	.897	.933
orange	.519	.859	.794	.904

Category 1 Continued

Instance	Grade			
	2	3	4	6
grape	.358	.500	.516	.635
banana	.346	.547	.611	.798
pear	.259	.453	.603	.596
peach	.148	.453	.437	.423
pineapple	.123	.109	.214	.308
grapefruit	.074	.141	.151	.250
lemon	.062	.141	.095	.192
cherry	.049	.203	.222	.221
tomato	.049		.016	.096
plum	.037	.141	.230	.250
coconut	.025		.024	.048
lime	.025	.078	.087	.154
tangerine	.025	.031		.096
cantaloupe		.156		.038
watermelon		.063	.056	.058
apricot		.047	.071	.135
prune		.047	.048	.144
strawberry		.047	.040	.192
blackberry			.040	.029
blueberry			.032	.029
raspberry			.016	.077
papaya				.029
avocado				.019
fig				.019
pomegranate				.019
Mean	3.02	5.06	5.25	6.76

Category 2
Birds

Instance	Grade			
	2	3	4	6
bluebird	.432	.406	.429	.317
robin	.284	.672	.659	.673
bluejay	.185	.406	.262	.346
parrot	.185	.359	.111	.144
eagle	.173	.281	.294	.240
sparrow	.148	.313	.254	.510
blackbird	.136	.141	.230	.163
crow	.111	.094	.206	.202
hummingbird	.111	.156	.119	.144
duck	.099	.094	.167	.135
ptarmigan*	.074			
woodpecker	.062	.047	.071	.183
hawk	.049	.078	.397	.144
pigeon	.049	.109		.115
bird	.037			
canary	.037	.141	.056	.154
ostrich	.037	.078	.016	.038
parakeet	.037	.094		.067
redbird	.037	.031	.016	
swan	.037	.031	.056	.019
goose	.025		.048	.087
owl	.025	.031	.056	.048
peacock	.025		.032	.067
redbreast	.025	.047		
roadrunner	.025			.019
rooster	.025			
starling	.025			.019
nest		.156		
chicken		.094	.024	.115
eggs		.078		
mockingbird		.063		.029
swallow		.063		.029
tree		.063		
seagull		.047		.048
bald eagle		.031		
finch		.031		.019
flamingo		.031	.032	.067
fly		.031		
hen		.031		
pelican		.031	.016	
penguin		.031		.038
pheasant		.031	.040	.077
quail		.031	.016	.048
redwing		.031		
turkey		.031	.071	
wings		.031		
worm		.031		
magpie			.079	.106
cardinal			.063	.173
falcon			.048	.038
jay			.048	.125
dove			.040	.067
blue			.032	
vulture			.024	.019
bat			.016	
chick			.016	
meadowlark			.016	.087
scarecrow			.016	
lark				.096
wren				.067
gull				.038
chickadee				.029
flicker				.029
stork				.029

Category 2 Continued

Instance	Grade			
	2	3	4	6
nightingale				.019
oriole				.019
Mean	2.73	4.94	4.21	5.43

**The ptarmigan is the state bird of Alaska. A substantial number of second graders had just completed a social studies unit on Alaska, and this undoubtedly accounts for the high frequency of this response.*

Category 3
Carpenter's Tools

Instance	Grade			
	2	3	4	6
hammer	.840	.891	.944	.981
saw	.432	.609	.675	.702
screwdriver	.383	.547	.643	.712
wrench	.346	.359	.563	.413
nail	.309	.594	.476	.625
screw	.160	.141	.183	.260
pliers	.099	.297	.111	.183
drill	.037	.219	.190	.231
bolt	.025	.063	.048	.067
glue	.025			.019
plane	.025			.048
wood	.025	.078	.056	.048
chisel		.063		.038
shovel		.063		
tools		.063		
board		.047	.071	
nut		.047	.040	.058
cement		.031		
concrete		.031		
hacksaw		.031		.019
jackhammer		.031		
knife		.031	.024	.029
monkey wrench		.031	.024	.019
ruler		.031		.087
sandpaper		.031		
wire		.031	.016	
wirecutter		.031		.019
work		.031		
yardstick		.031		
axe			.079	.019
blowtorch			.016	
sander			.016	.029
sledgehammer			.016	
level				.067
square				.038
file				.029
point				.019
washer				.019
Mean	3.00	4.95	4.35	5.18

Category 4
Parts of the Body

Instance	Grade			
	2	3	4	6
leg	.630	.672	.714	.894
head	.556	.688	.659	.731

Category 4 Continued					Category 5 Parts of a Building				
Instance	Grade				Instance	Grade			
	2	3	4	6		2	3	4	6
arm	.568	.625	.706	.837	window	.556	.359	.714	.567
hand	.358	.422	.429	.471	door	.333	.375	.548	.471
eye	.296	.594	.468	.615	brick	.284	.266	.397	.317
foot	.284	.344	.397	.538	room	.198	.281	.103	.260
nose	.222	.594	.413	.625	wall	.185	.297	.381	.519
ear	.185	.500	.325	.471	bathroom	.136	.250	.095	.115
feet	.185	.250	.254	.827	wood	.136	.172	.333	.173
toe	.185	.422	.444	.654	bedroom	.123	.234	.079	.038
neck	.173	.172	.270	.115	floor	.123	.203	.262	.558
hair	.123	.344	.222	.212	roof	.123	.219	.508	.365
finger	.111	.438	.548	.635	kitchen	.086	.219	.016	.106
mouth	.111	.422	.325	.452	bed	.062	.094	.063	.038
bone	.099	.063	.095	.058	blackboard	.062	.031		.019
back	.086	.078	.175	.038	living room	.062	.203	.024	.048
stomach	.086	.172	.135	.202	stairs	.062	.031	.079	.038
knee	.074	.203	.198	.240	bricks	.049			
face	.062	.047	.040	.087	cement	.049	.047	.103	.096
body	.049	.031			lights	.049	.047		.135
brain	.049	.109	.048	.077	board	.037		.032	.019
chest	.049	.047	.111	.192	ceiling	.037		.119	.240
elbow	.049	.109	.103	.173	chimney	.037	.047	.159	.019
heart	.049	.203	.079	.106	closet	.037	.063		.029
hip	.049		.087	.058	desk	.037	.172	.024	.077
ankle	.037	.141	.095	.144	dining room	.037	.031		.038
blood	.037	.047			glass	.037		.040	.087
chin	.037	.047			rug	.037	.031	.063	
muscle	.025				stair	.037	.094		
rib	.025	.031	.111	.019	basement	.025	.094	.087	.048
shoulder	.025	.063	.119	.125	chair	.025	.203	.135	.163
thigh	.025		.048	.029	downstairs	.025	.031		
tooth	.025	.078			hall	.025	.031		.067
finger nail		.078	.016	.058	heater	.025			.038
tongue		.078		.096	light	.025	.078	.071	.144
bottom		.063	.024		metal	.025		.016	.029
butt		.063		.048	porch	.025			.019
teeth		.063	.071	.106	steel	.025		.063	.048
skin		.047	.016	.019	upstairs	.025			
toenail		.047		.029	table		.156	.079	.144
belly button		.031			garage		.094	.032	.029
breast		.031	.024	.058	sink		.094	.048	
eyebrow		.031			bath tub		.063		
kidney		.031	.016	.019	clock		.063	.016	.077
lip		.031	.040		cafeteria		.047		
liver		.031	.024	.058	couch		.047	.032	.019
skull			.103		lamp		.047	.024	
wrist			.095	.106	map		.047		
lung			.048	.038	shelf		.047		.019
pelvis			.048		toilet		.047		.029
intestines			.024	.019	book		.031		
jaw			.024		bulletin board		.031		
nail			.024	.019	carpet		.031	.056	.077
freckles			.016		chalkboard		.031		
rear end			.016		flag		.031		
shin			.016		gym		.031		.029
thumb			.016	.029	office		.031	.040	.038
fanny				.048	phone		.031		
backbone				.029	playroom		.031		
appendix				.019	school		.031	.016	
calf				.019	stove		.031		
heel				.019	television		.031		
pancreas				.019	workroom		.031		
vein				.019	nail			.079	.058
Mean	5.14	8.95	8.39	10.70					

Category 5 Continued

Instance	Grade			
	2	3	4	6
paint			.048	
step			.048	
chairs			.032	
plaster			.032	.029
cabinet			.024	.029
elevator			.024	.077
den			.016	
drapes			.016	
dresser			.016	
furniture			.016	
screw			.016	
wallpaper			.016	
frame				.048
library				.048
rest room				.048
rooms				.038
fire escape				.029
air conditioner				.019
attic				.019
classroom				.019
curtain				.019
foundation				.019
furnace				.019
hallway				.019
shingles				.019
window sill				.019
wire				.019
Mean	3.81	6.23	5.45	6.62

Category 6
Weather Phenomena

Instance	Grade			
	2	3	4	6
snow	.728	.750	.849	.827
rain	.593	.719	.856	.779
sun	.383	.172	.405	.346
hail	.259	.500	.381	.462
hot	.210	.344	.294	.356
cold	.198	.313	.310	.394
sunny	.198	.281	.103	.173
wind	.173	.172	.325	.260
winter	.160	.141	.111	.048
summer	.148	.141	.103	.038
cloudy	.123	.219	.230	.279
fog	.123	.188	.302	.212
spring	.111	.109	.135	.038
warm	.099	.125	.167	.173
rainy	.086	.094	.024	.125
fall	.074	.125	.125	.029
snowy	.074	.063		.115
sleet	.049	.156	.095	.260
windy	.049	.234	.095	.125
stormy	.037	.094	.071	.048
tornado	.037	.219	.016	.087
autumn	.025			
cool	.025	.094	.040	.087
chilly	.025			.019
hurricane		.109	.016	.067
storm		.109	.111	.038
foggy		.094		.067
tidal wave		.094		

Category 6 Continued

Instance	Grade			
	2	3	4	6
lightning		.078	.016	.019
thunder		.078		.038
blizzard		.063	.079	.048
flood		.063		.038
freezing		.063		.029
nice		.063		
dry		.047	.016	.087
frost		.047	.167	.077
sunshine		.047	.040	.048
bad		.031		
damp		.031		.038
freeze		.031	.016	.029
good		.031		
ice		.031	.024	
smog		.031	.040	.019
steaming		.031		
wet		.031		.058
cloud			.183	.029
dew			.040	.029
fair			.040	.019
dusty			.040	
humid				.077
mild				.038
misty				.038
dust				.029
earthquake				.029
heat				.029
cyclone				.019
drought				.019
gloomy				.019
Mediterranean				.019
mist				.019
monsoon				.019
Mean	4.26	6.92	5.98	6.64

Category 7
Places One Can Stay Away from Home (Dwellings)

Instance	Grade			
	2	3	4	6
hotel	.469	.672	.810	.942
motel	.469	.641	.579	.865
hospital	.444	.703	.730	.587
house	.333	.609	.206	.250
tent	.185	.156	.214	.413
apartment	.148	.328	.135	.144
home	.148	.188		.077
trailer	.099	.109	.111	.279
cabin	.074	.063	.103	.135
car	.074	.094	.175	.125
friends	.074		.079	.077
camper	.062	.094	.167	.279
grandma's	.062			
bedroom	.049	.031		
school	.049	.203	.048	.029
barn	.025			
bath	.025			
bed	.025	.047	.016	.019
building	.025	.047		
shack	.025			.038
California		.047		
camp		.047	.087	.058

Category 7 Continued

Instance	Grade			
	2	3	4	6
doctor		.047		
plane		.047	.016	.029
rest home		.047		.029
restaurant		.047	.016	
Boulder		.031		
campground		.031	.048	.029
cottage		.031		
inn		.031	.024	.077
lodge		.031	.024	.115
room		.031		.019
train		.031	.032	.067
Winnebago		.031		
mountain			.111	.019
camping			.048	
bus			.040	
town			.040	
city			.032	
neighbors			.024	
outside			.024	
airplane			.016	.019
Alaska			.016	
boat			.016	.019
cave			.016	.048
church			.016	
lake			.016	
relative			.016	
truck			.016	
woods			.016	.019
boarding house				.038
dorm				.038
fort				.019
gas station				.019
tavern				.019
Mean	3.23	5.17	4.37	4.01

Category 8
Kitchen Utensils

Instance	Grade			
	2	3	4	6
pan	.593	.516	.437	.519
spoon	.506	.797	.794	.827
knife	.444	.672	.770	.788
fork	.395	.766	.722	.769
stove	.272	.359	.159	.317
pot	.148	.219	.262	.240
bowl	.099	.156	.206	.183
oven	.086	.109	.143	.144
dish	.074	.141	.095	.058
mixer	.062	.156	.135	.202
plate	.049	.250	.175	.173
recipe	.049			
refrigerator	.049	.203	.079	.144
food	.037		.024	.019
beater	.037	.031	.056	.144
blender	.025	.094	.127	.173
can opener	.025	.141	.024	.135
cookbook	.025			
cookie	.025			
egg beater	.025		.024	.058
freezer	.025		.016	
glass	.025	.078	.087	.058

Category 8 Continued

Instance	Grade			
	2	3	4	6
sink	.025	.250	.135	.135
spatula	.025	.109	.063	.202
dishwasher		.328	.040	.048
cup		.109	.119	.202
skillet		.094	.016	.058
coffee pot		.063	.032	
measuring cup		.063	.032	.038
table		.063	.024	.029
toaster		.063	.024	.067
broom		.047	.079	.019
can		.047	.016	
bottle opener		.031		
cabinet		.031		
cupboard		.031		
dustpan		.031	.016	
garbage		.031		
mop		.031	.024	.019
pot holder		.031		
potato masher		.031		
scissors		.031		
screwdriver		.031		
sponge		.031	.024	.019
tablecloth		.031		
bowls			.048	.019
rag			.040	
plates			.032	
salt			.024	
soap			.024	
towel			.024	
cutter			.016	
cutting board			.016	
glasses			.016	.019
grater			.016	
hammer			.016	
meat			.016	
napkin			.016	
rolling pin			.016	.019
silverware			.016	.029
soup spoon			.016	
water			.016	
board				.058
disposal				.038
fry pan				.038
light				.029
trashmasher				.029
ladle				.019
pressure cooker				.019
strainer				.019
sugar				.019
trash can				.019
washer				.019
Mean	3.65	7.06	5.67	6.72

Category 9
Vegetables

Instance	Grade			
	2	3	4	6
carrot	.481	.766	.595	.779
peas	.420	.547	.516	.644
corn	.259	.484	.484	.500
tomato	.247	.391	.421	.519

Category 9 Continued

Instance	Grade			
	2	3	4	6
beans	.185	.453	.429	.519
spinach	.173	.250	.214	.413
potato	.148	.422	.317	
radish	.148	.141	.032	.115
lettuce	.099	.281	.238	.394
beet	.074	.063	.127	.183
celery	.062	.156	.286	.269
asparagus	.049	.031	.024	.067
cabbage	.037	.188	.143	.154
salad	.037		.016	.019
broccoli	.025	.109		.019
cucumber	.025	.094	.032	.077
green beans	.025	.094	.016	.029
onion		.125	.087	.125
squash		.094	.175	.077
string bean		.094	.024	.048
cauliflower		.078	.024	.048
sauerkraut		.078		
lima beans		.047		.038
mixed vegetables		.031		
peanut		.031		
pumpkin			.071	
pepper			.024	.038
mushroom			.016	
parsley			.016	
rice			.016	
turnip				.087
barley				.058
beets				.058
brussels sprouts				.019
chard				.019
hominy				.019
sweet potato				.019
Mean	2.72	4.04	4.48	5.84

Category 10
Sports

Instance	Grade			
	2	3	4	6
football	.852	.766	.865	.942
baseball	.568	.641	.778	.894
basketball	.469	.469	.571	.673
soccer	.309	.344	.548	.615
hockey	.210	.188	.246	.308
kickball	.136	.281	.413	.394
swimming	.099	.188	.246	.317
tennis	.099	.203	.127	.183
dodge ball	.086			.048
golf	.074	.109	.056	.048
jump rope	.074	.031	.024	
racing	.062	.125	.024	.019
ball	.037			.019
fishing	.037	.094	.032	
volleyball	.037	.047	.349	.279
roller-skating	.037	.031	.056	.019
skating	.025		.040	.067
skiing		.219	.119	.212
Monopoly		.203	.016	.058
Life		.141	.040	.019
softball		.125	.071	.125
bowling		.094	.063	.029

Category 10 Continued

Instance	Grade			
	2	3	4	6
cards		.094		.019
chess		.094		.019
shuffleboard		.094		
hide-and-seek		.078		
ice-skating		.078	.109	.019
poker		.063		
pool		.063	.016	.058
track		.063	.063	.019
Yahtzee		.063		
handball		.047		.038
hopscotch		.047	.079	
Ping-Pong		.047	.016	.029
tag		.047	.016	.048
badminton		.031		.029
boating		.031		
boxing		.031	.032	
chase		.031		
checkers		.031		
duck-duck		.031		
high jump		.031		
hiking		.031		.038
Kerplunk		.031		
running		.031	.016	
Scrabble		.031		
sevenup		.031		
foursquare			.040	.183
horseback riding			.040	.029
polo			.040	.029
red rover			.040	.048
tumbling			.024	
pinball			.016	
riding			.016	
roller derby			.016	
tetherball			.016	
rugby				.048
keep-away				.029
capture flag				.019
hunting				.019
Parcheesi				.019
ticktacktoe				.019
Twister				.019
water polo				.019
water skiing				.019
Mean	2.89	6.94	4.54	6.47

Category 11
Denominations of Money

Instance	Grade			
	2	3	4	6
dollar	.679	.828	.746	.904
dime	.667	.688	.603	.788
penny	.654	.656	.667	.798
nickel	.519	.578	.667	.644
quarter	.383	.641	.611	.760
half dollar	.111	.484	.032	.279
silver dollar	.062	.141		.077
cent	.037	.094	.095	.048
coin		.047		.038
peso		.047		.038
bank		.031		
gold		.031	.032	

Category 11 Continued

Instance	Grade			
	2	3	4	6
silver			.040	
copper			.024	
counterfeit			.016	
yen				.048
marks				.029
pint				.019
pound				.019
Mean	3.12	4.58	3.63	4.57

Category 12
Footwear

Instance	Grade			
	2	3	4	6
socks	.778	.750	.698	.865
shoes	.728	.797	.778	.894
boots	.605	.547	.603	1.000
slippers	.358	.438	.532	.394
tennis	.222	.375	.206	.327
sandals	.210	.359	.262	.721
moccasins	.111	.203	.024	.067
sneakers	.049	.063	.071	.019
high heels	.037	.063	.071	.029
cowboy boot	.025	.031		
high tops	.025			
hiking boots	.025	.094		.087
hose	.025		.063	.077
rubbers	.025		.024	.029
saddle shoes	.025		.016	.019
snowshoes	.025	.031		
thongs	.025	.063	.079	.192
toe nails		.125		
stockings		.109	.016	.096
cleats		.078		
overboots		.078		
toes		.078		
blister		.063		
shoelaces		.063		
anklet		.047		
house slippers		.047		
street shoes		.047		
track shoes		.047		
feet		.031		
fins		.031		
flippers		.031		.019
gogo boots		.031	.016	
golf shoes		.031		
hard shoes		.031		
ice skates		.031	.048	
knee socks		.031		
overshoes		.031		
roller skates		.031	.024	
slipons		.031		
toe nail polish		.031		
clogs			.103	.154
heels			.040	
skates			.032	.029
skis			.032	
sleepers			.032	
skins			.024	
clutter boots			.016	.019
dance shoes			.016	

Category 12 Continued

Instance	Grade			
	2	3	4	6
footlets			.016	
galoshes			.016	.019
pantyhose			.016	.058
nylons				.087
footsie				.077
Band-Aids				.038
desert boots				.029
football shoes				.029
heel				.029
ski boots				.029
skin				.029
loafers				.019
mud				.019
play shoes				.019
powder				.019
Sunday shoes				.019
tights				.019
waders				.019
Mean	3.46	5.89	4.10	5.99

Category 13
Toys

Instance	Grade			
	2	3	4	6
doll	.370	.672	.540	.663
ball	.321	.391	.270	.308
car	.259	.281	.437	.471
truck	.210	.297	.373	.394
top	.173	.172	.159	.106
boat	.148	.063	.032	.019
train	.148	.094	.103	.173
airplane	.086		.024	.038
bike	.074	.141	.151	.067
game	.062	.125	.183	.221
teddy bear	.062	.172	.016	
bat	.049		.048	.106
roller skates	.049		.024	
tractor	.049	.125	.111	
Barbie	.037	.031	.079	.106
blocks	.037	.047	.032	.087
Hot Wheels	.037	.063	.063	.019
toy	.037		.024	.029
baseball	.025		.056	.067
bicycle	.025	.031		
football	.025	.078	.143	.125
house	.025			.029
putt	.025			
stuffed animal	.025	.078	.024	.058
yoyo	.025	.078	.079	
puzzle		.125	.048	
book		.078	.016	
gun		.078	.111	.202
paper doll		.078		
rubber duck		.078	.024	.019
dog		.063	.040	.019
basketball		.047	.040	.058
dish		.047		.058
Lego		.047		
model		.047		.087
playhouse		.047		
Tinkertoy		.047	.024	

Category 13 Continued					Category 14 Trees				
Instance	Grade				Instance	Grade			
	2	3	4	6		2	3	4	6
animal		.031	.056	.106	apple	.593	.547	.595	.587
bars		.031			maple	.346	.297	.460	.577
cat		.031	.016		pine	.333	.438	.524	.750
color book		.031			orange	.148	.281	.302	.192
cowboy		.031			pear	.123	.078	.167	.221
dump truck		.031			spruce	.099	.063	.095	.462
Hoppity Hop		.031			cherry	.074	.250	.222	.240
horse		.031	.016	.029	green	.074	.063		
jack-in-the-box		.031			oak	.074	.531	.611	.683
Life		.031			plum	.074	.203	.087	.077
logs		.031			evergreen	.062	.094	.159	.240
minibike		.031			grape	.062	.047	.048	
Monopoly		.031			palm	.062	.078	.135	.125
motorcycle		.031			peach	.062	.297	.143	.183
mouse		.031			aspen	.049	.234	.214	.231
playground		.031			blue spruce	.049	.141	.024	.048
rattle		.031		.106	coconut	.049	.047	.040	.019
record		.031			pineapple	.049		.048	
robot		.031	.032	.019	willow	.049	.063	.063	.212
Sizzlers		.031			tree	.037			
swing		.031	.032		alpine	.025			.019
wagon		.031	.048		banana	.025	.047	.079	.029
Matchbox			.063		fruit	.025			
trunk			.056		honey	.025		.024	
doll house			.048	.019	lemon	.025		.016	
GI Joe			.032	.067	red	.025		.024	
jeep			.024		leaves		.219		
windup			.024		branch		.125		
bear			.016		nest		.094		
Big Jim			.016		rubber		.063	.063	
cards			.016		sap		.063		
crib			.016		trunk		.063		
drum			.016		bird		.047		
duck			.016	.019	gum		.047		
helicopter			.016		redwood		.047	.230	.115
jacks			.016	.019	weeping willow		.047		
mat			.016		bark		.031	.016	
plane			.016	.096	big		.031		
race car			.016		brown		.031		
rope			.016	.029	cedar		.031		.038
skate			.016		crabapple		.031	.040	.135
slide			.016		little		.031		
tanks			.016	.019	olive		.031	.024	.038
trampoline			.016		paper		.031		
bell				.048	stump		.031		
puppet				.038	walnut		.031	.032	.019
ships				.038	elm			.151	.404
hopscotch				.029	fir			.063	.144
jump rope				.029	birch			.056	.144
mitt				.029	Christmas			.040	.019
rocket				.029	cottonwood			.032	.106
soldier				.029	hollow			.016	
balloons				.019	nut			.016	
board				.019	dogwood				.096
buggy				.019	grapefruit				.058
dingaling				.019	ash				.048
hula hoop				.019	cotton				.038
play dough				.019	apricot				.029
race				.019	sycamore				.029
trike				.019	chestnut				.019
Mean	3.05	5.47	4.26	5.36	locust				.019

Category 14 Continued

Instance	Grade			
	2	3	4	6
mulberry				.019
poplar				.019
Mean	2.86	5.66	4.98	6.69

Category 15
Clothing

Instance	Grade			
	2	3	4	6
pants	.667	.797	.802	.837
shirt	.630	.797	.762	.856
dress	.469	.656	.540	.519
socks	.333	.531	.484	.663
shoes	.185	.438	.175	.413
underwear	.173	.203	.476	.625
hat	.136	.172	.087	.183
skirt	.136	.313	.175	.298
shorts	.099	.266	.198	.192
coat	.086	.203	.143	.202
blouse	.074	.094	.103	.337
t-shirt	.074	.109	.040	.096
scarf	.062	.031		.019
sweater	.062	.047		.106
slip	.049	.031	.079	.144
tie	.049	.109	.079	.048
gloves	.037	.094	.032	.048
top	.037			.019
boots	.025	.047	.016	.029
undershirt	.025	.078	.048	.029
vest		.141	.087	.077
hotpants		.063		
pajamas		.063	.032	.038
bra		.047	.175	.337
mittens		.047	.024	
belt		.031	.040	.125
culottes		.031		
flares		.031		
jumper		.031	.032	.029
Levis		.031		
purse		.031		
slacks		.031	.040	.038
sport shirt		.031		
stockings		.031		.019
suit		.031	.024	.019
swimsuit		.031		.048
underpants		.031		.058
yarn		.031		
girdle			.079	.144
sweatshirt			.040	.038
hose			.032	.125
panties			.032	
pantyhose			.032	
smock			.032	.019
pantsuit			.024	
cutoffs			.016	
jacket			.016	.019
jeans			.016	.019
diaper				.067
nylon				.067
bathing suit				.019
bikini				.019

Category 15 Continued

Instance	Grade			
	2	3	4	6
bodysuit				.019
jock				.019
nightgown				.019
Mean	3.72	5.98	5.22	7.34

Category 16
Relatives

Instance	Grade			
	2	3	4	6
aunt	.568	.781	.833	.933
uncle	.543	.734	.762	.952
grandma	.259	.344	.167	.260
cousin	.235	.578	.683	.654
dad	.185	.203	.087	.135
grandpa	.185	.359	.135	.240
mom	.185	.141	.071	.125
brother	.173	.516	.286	.490
sister	.160	.422	.302	.510
mother	.111	.219	.270	.404
grandmother	.099	.172	.563	.519
daddy	.074	.031		
baby	.062		.016	
father	.062	.141	.254	.375
grandfather	.062	.188	.500	.500
dog	.049	.063		
mommy	.049			
grandmom	.037	.031		
nephew	.037	.031	.071	.096
granddad	.025			.019
gramma		.125	.024	
niece		.125	.071	.163
grampa		.094	.024	.019
great grandma		.063		.038
cat		.047		
great grandma		.047		
stepfather		.047		.019
stepmother		.047		.019
friends		.031		
great aunt		.031		.058
great granddad		.031	.016	
great grandmother		.031		
great grandpa		.031		.038
great uncle		.031		.029
grandparent			.063	.087
parents				.038
second cousin				.029
great grandfather				.019
neighbor				.019
Mean	3.44	5.47	5.25	6.95

Category 17
Furniture

Instance	Grade			
	2	3	4	6
chair	.790	.938	.944	1.000
couch	.630	.672	.667	.779
table	.531	.719	.786	.865

Category 17 Continued

Instance	Grade			
	2	3	4	6
bed	.272	.578	.667	.798
desk	.198	.438	.397	.510
dresser	.111	.234	.270	.279
sofa	.111	.250	.175	.250
television	.111	.125	.095	.135
lamp	.062	.156	.135	.240
stool	.062	.094	.024	.115
rocker	.049	.063		
love seat	.037	.078	.087	.250
shelf	.037	.031	.024	.038
beanbag	.025			.019
bed table	.025			
bench	.025		.071	.087
coffee table	.025	.078		.019
stove		.094	.016	.019
rug		.063	.024	
cabinet		.047	.024	.077
refrigerator		.047		.019
bookcase		.031		.048
carpet		.031		
chest		.031	.040	.029
davenport		.031		
piano		.031	.032	
rocking chair		.031	.016	
sink		.031	.024	.058
stereo			.063	.058
TV desk			.056	
TV bed			.032	
light			.024	
night stand			.024	.038
vanity			.024	
bookshelf			.016	.019
cot			.016	
footstool			.016	.019
recorder			.016	
water bed			.016	.058
toilet				.087
drawers				.048
mirror				.038
recliner				.038
bar				.029
end table				.029
hassock				.029
tub				.029
arm chair				.019
bag				.019
bathtub				.019
clock				.019
hutch				.019
Mean	3.32	4.00	5.15	6.54

Category 18
Crimes

Instance	Grade			
	2	3	4	6
stealing	.580	.688	.556	.462
speeding	.346	.422	.452	.260
killing	.259	.375	.476	.260
robbery	.222	.281	.286	.423
murder	.123	.531	.111	.404
running light	.099	.094		.056

Category 18 Continued

Instance	Grade			
	2	3	4	6
shooting	.074	.156	.151	.173
kidnapping	.062	.078	.159	.135
fighting	.049		.032	
drugs	.037	.219	.143	.510
breaking	.025			
breaking window	.025			.029
jaywalking	.025		.048	.019
rape	.025		.032	.337
crime		.047	.016	.038
drinking		.047	.032	.048
sin		.047		
bombing		.031		
driving too slow		.031		
handling drugs		.031		
littering		.031		
shoplifting		.031	.032	.019
stabbing		.031		
suicide		.031	.032	.048
wrong parking		.031		
racing			.048	
burglary			.040	.058
dope			.040	
blackmail			.024	.058
drunk			.024	
drunk driving			.024	.038
drunkenness			.016	
gambling			.016	
guns			.016	
hitchhiking			.016	.019
theft				.077
felony				.038
adultery				.029
assault				.029
fight				.029
hijacking				.029
manslaughter				.029
smoking pot				.029
arson				.019
battery				.019
counterfeiting				.019
hit-and-run				.029
mugging				.019
trespassing				.019
Mean	2.31	4.33	3.04	4.17

Category 19
Flowers

Instance	Grade			
	2	3	4	6
rose	.617	.719	.825	.779
daisy	.370	.578	.595	.635
tulip	.321	.406	.508	.558
violet	.284	.094	.206	.212
sunflower	.136	.094	.175	.144
dandelion	.123	.141	.143	.115
forget-me-not	.099			
pansy	.099	.078	.151	.163
petunia	.086	.234	.056	.221
daffodil	.074	.109		.135
buttercup	.049	.047	.016	.058
bluebell	.037			.019

Category 19 Continued				
Instance	Grade			
	2	3	4	6
marigold	.037	.109	.063	.154
yellow	.037	.031		
bleeding-heart	.025			
lilac	.025			.077
zinnia	.025	.063		.077
columbine		.188		.231
poppy		.109	.087	.038
iris		.078		.135
lily		.078	.143	.135
leaves		.074		
morning glory		.063	.040	.019
stem		.063		
snapdragon		.047	.024	.058
water		.047		
carnation		.031	.111	.269
chrysanthemum		.031		
petals		.031		
red		.031		
root		.031		
seeds		.031		
smell		.031		
soil		.031		
sun		.031	.016	
sweet		.031		
sweet pea		.031	.040	.019
cactus			.024	
dragon			.024	
gardenia			.016	
mint			.016	
wildflower			.016	
mum				.096
honeysuckle				.038
orchid				.029
black-eyed Susan				.019
Johnny jump-up				.019
lily of the valley				.019
paintbrush				.019
peony				.019
Mean	2.70	4.42	3.29	4.75

Category 20 Animals				
Instance	Grade			
	2	3	4	6
dog	.815	.891	.897	.952
cat	.753	.891	.865	.923
horse	.420	.609	.619	.490
pig	.309	.328	.254	.250
deer	.198	.188	.365	.452
lion	.198	.391	.310	.413
elephant	.185	.359	.341	.279
cow	.173	.438	.310	.317
bear	.136	.250	.333	.375
tiger	.111	.375	.198	.375
giraffe	.086	.219	.151	.192
zebra	.086	.141	.206	.077
goat	.074	.031	.095	.058
mouse	.074	.125	.294	.250
rat	.062	.094	.278	.173
fox	.049	.031	.071	.067
hog	.049		.048	.029
rabbit	.049	.172	.310	.269
sheep	.049	.047	.103	.038

Category 20 Continued				
Instance	Grade			
	2	3	4	6
antelope	.037		.063	.058
camel	.037	.172		.019
dinosaur	.037			
kitten	.037	.047		
leopard	.037	.063	.056	.106
monkey	.037	.031	.127	.096
moose	.037	.047	.056	.067
raccoon	.037		.024	.096
turtle	.037	.047	.103	.135
ape	.025			
bunny	.025			
caribou	.025			
donkey	.025	.031	.087	.038
elk	.025	.031	.087	.154
gerbil	.025	.063	.024	.125
hippopotamus	.025	.078	.127	.096
lamb	.025	.031	.032	.019
lizard	.025	.031	.056	.019
mice	.025	.078	.071	.115
skunk	.025	.031	.040	.096
wolf	.025	.109	.032	.087
hamster		.078	.111	.115
wolverine		.078		
cougar		.063		.019
rhinoceros		.063	.087	.029
alligator		.047	.016	.038
buffalo		.047	.056	.019
cheetah		.047		
frog		.047	.048	.048
puppy		.047		
anteater		.031		.038
bobcat		.031	.016	
bull		.031		.048
chicken		.031		
guinea pig		.031		
panther			.079	.135
gorilla			.024	
kangaroo			.024	.019
squirrel			.024	.019
wildcat			.024	
ant			.016	
baboon			.016	
badger			.016	
fawn			.016	
mule			.016	.029
aardvark				.048
chipmunk				.048
weasel				.038
beaver				.019
bird				.019
cattle				.019
crocodile				.019
groundhog				.019
panda				.019
Mean	4.77	7.66	7.78	8.38

Category 21 Insects				
Instance	Grade			
	2	3	4	6
fly	.543	.547	.675	.702
bee	.457	.375	.532	.404
ant	.272	.391	.587	.500

Category 21 Continued

Instance	Grade			
	2	3	4	6
butterfly	.272	.266	.270	.125
ladybug	.235	.656	.262	.279
spider	.185	.313	.444	.462
black widow spider	.160	.109		
mosquito	.160	.344	.071	.385
beetle	.148	.391	.389	.510
grasshopper	.111	.281	.429	.394
caterpillar	.099	.219	.032	.048
worm	.099	.125	.143	.115
tarantula	.074	.031		
cricket	.062	.031	.167	.163
bug	.049	.031	.024	.029
tick	.037	.031	.024	.029
wasp	.037	.078	.151	.135
bumblebee	.025	.031		
flea	.025		.016	.048
moth	.025	.063	.071	.096
dragonfly		.078	.095	.048
rolly-polly		.063		
longlegs		.031		
tomato worm		.031		
firefly			.063	.029
horsefly			.063	.038
black widow			.056	.087
hornet			.032	.058
gnat			.024	.077
roach			.016	.067
yellowjacket			.016	
mantis				.067
stinkbug				.067
cockroach				.048
locust				.048
termite				.038
walking stick				.038
praying mantis				.029
centipede				.019
daddy longlegs				.019
fruit fly				.019
leech				.019
tsetse fly				.019
water bug				.019
Mean	3.27	4.95	4.72	5.49

Category 22
Colors

Instance	Grade			
	2	3	4	6
red	.889	.922	.897	.962
blue	.827	.953	.889	.913
black	.617	.859	.817	.962
yellow	.617	.734	.802	.856
green	.580	.750	.817	.904
orange	.469	.594	.770	.760
purple	.432	.734	.714	.846
white	.420	.547	.635	.779
brown	.407	.594	.611	.644
pink	.383	.516	.484	.587
gray	.235	.234	.357	.317
gold	.160	.328	.460	.481
silver	.123	.297	.357	.423

Category 22 Continued

Instance	Grade			
	2	3	4	6
violet	.062	.156	.262	.135
maroon	.025	.078	.024	.096
orange-red	.025			
copper		.141	.071	.096
turquoise		.063	.032	.038
peach		.047	.056	.058
tan		.047	.206	.125
blue-green		.031		.029
mixed		.031		
red-orange		.031		
red-violet		.031		
olive			.048	.067
aqua			.040	.077
lavender			.032	.087
salmon			.032	
rose			.016	.019
navy				.038
hot pink				.019
wine				.019
Mean	6.43	8.50	9.44	10.51

Category 23
Vehicles and Means of Transportation

Instance	Grade			
	2	3	4	6
car	.914	1.000	.944	.990
truck	.432	.484	.619	.433
bus	.395	.547	.627	.337
bike	.370	.328	.643	.683
train	.247	.563	.444	.490
airplane	.235	.328	.262	.115
boat	.173	.203	.198	.212
horse	.160	.156	.310	.163
motorcycle	.148	.297	.079	.250
wagon	.123	.188	.238	.183
plane	.099	.234	.278	.404
tractor	.086	.141	.071	.048
bicycle	.049	.094		
helicopter	.037	.078	.095	.067
spaceship	.037			
taxi	.037	.125	.111	.077
tricycle	.037	.031		
buggy	.025	.063	.040	.058
hotrod	.025			
rocket	.025		.024	.067
go-cart		.156	.048	.135
jet		.156	.079	.067
dune-buggy		.094		.038
minibike		.094	.032	.096
fire engine		.078		
fire truck		.078		
jeep		.063	.071	.077
trailer		.063		.067
trike		.063	.175	.269
ship		.047	.087	.029
subway		.047	.095	.058
Big Wheel		.031	.024	.019
camel		.031	.024	
feet		.031	.040	
ferris wheel		.031		

Category 23 Continued

Instance	Grade			
	2	3	4	6
roller coaster		.031		
rowboat		.031		
unicycle		.031		
cycle			.246	.231
camper			.079	.096
cab			.056	.029
cart			.056	.115
scooter			.056	.038
tank			.040	.029
donkey			.032	
trolley car			.032	.019
balloon			.024	.019
canoe			.024	
motorbike			.024	.029
skates			.024	
cow			.016	
dragster			.016	.019
sled			.016	
carriage				.029
chariot				.029
submarine				.029
missile				.019
streetcar				.019
Mean	4.05	6.67	6.53	6.59

Category 24
Ways to Measure Distance

Instance	Grade			
	2	3	4	6
ruler	.457	.609	.627	.394
yardstick	.333	.328	.270	.115
foot	.284	.703	.516	.750
inch	.148	.516	.437	.673
mile	.123	.266	.333	.587
measuring tape	.086			.019
tape measure	.086	.156		.087
inchworm	.062	.031		
tape	.037	.063	.190	.067
yard	.037	.406	.373	.490
footstick	.025			
map	.025	.031		
string	.025	.047	.032	.029
centimeter		.250	.032	.077
long		.141		
short		.125		
body		.078		
meter		.078	.032	.096
stick		.063		.038
cup		.047		
kilometer		.047		.038
meter stick		.047		.019
finger		.031		
hand		.031	.032	
middle		.031		
scale		.031	.024	
compass			.032	
acres			.016	.019
block			.016	.192
speedometer			.016	

Category 24 Continued

Instance	Grade			
	2	3	4	6
year			.016	
millimeter				.087
inches				.077
width				.077
fathom				.058
length				.048
league				.038
rod				.038
book				.029
knot				.019
measurer				.019
protractor				.019
Mean	1.81	4.72	3.15	4.50

Category 25
Ways to Measure Time

Instance	Grade			
	2	3	4	6
clock	.481	.641	.817	.192
watch	.370	.328	.563	.096
year	.370	.375	.452	.808
day	.198	.484	.429	.817
week	.173	.375	.278	.529
hour	.111	.531	.452	.692
minute	.099	.453	.421	.740
month	.099	.406	.325	.702
second	.049	.234	.294	.673
radio	.037			
sun	.037	.063	.143	.038
hourglass	.025		.032	.038
moon	.025		.048	
sundial	.025		.063	.058
time	.025	.063	.016	.019
timer	.025		.071	
calendar		.219	.040	.125
number		.109		.029
half-hour		.109		.029
century		.063	.143	.548
date		.063	.016	.038
hand		.047		.038
alarm clock		.031		
May		.031		
decade			.056	.327
stopwatch			.024	
night			.016	.019
seasons			.016	
stars			.016	
generation				.038
book				.029
noon				.029
Monday				.019
Tuesday				.019
Mean	2.30	5.06	4.36	7.00

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