

PracticalDG: Perturbation Distillation on Vision-Language Models for Hybrid Domain Generalization

Supplementary Material

8. Experimental Details

In this section, we provide detailed information on experiments for reproducibility.

8.1. Datasets

We introduce the basic information and the experimental settings of all datasets.

OfficeHome [47] dataset is integral for object recognition tasks, including four domains on art, clipart, product, and real world. Each domain is consisted of images from 65 different categories, which is shown in Table 22, summing up to a total of 15,500 images. We follow the training-validation split, and the unknown classes in [40] for a fair comparison. The splits on different \mathcal{H} is shown in Table 7.

Table 7. Diverse splits on different \mathcal{H} for OfficeHome dataset.

Domain	Class			
	$\mathcal{H} = 0$	$\mathcal{H} = 1/6$	$\mathcal{H} = 1/3$	$\mathcal{H} = 1$
Source 1	1-18	1-15,22-32	1-36	1-54
Source 2	19-36	1-9,16-21,33-43	19-54	1-54
Source 3	37-54	1-3,10-21,44-54	1-18,37-54	1-54
Target	1-65	1-65	1-65	1-65

PACS [29] dataset exhibits distribution shift across domains, including art painting, cartoon, photo, and sketch. The dataset encompasses 9,991 images categorized into seven classes. The class names of each category is presented in Table 22. The splits on different \mathcal{H} is shown in Table 8. Similar to OfficeHome, we follow the training-validation split and the unknown classes in [40].

Table 8. Diverse splits on different \mathcal{H} for PACS dataset.

Domain	Class			
	$\mathcal{H} = 0$	$\mathcal{H} = 1/6$	$\mathcal{H} = 1/3$	$\mathcal{H} = 1$
Source 1	1-2	1,2,4	1-4	1-6
Source 2	3-4	1,3,5	1,2,5,6	1-6
Source 3	5-6	2,3,6	3-6	1-6
Target	1-7	1-7	1-7	1-7

DomainNet [36] dataset is a large-scale DG dataset with six domains, including clipart, infograph, painting, quickdraw, real, sketch. The dataset contains 586,575 images

within 345 classes. The class names of each category is presented in Table 22. We randomly split 80% for training, 10% for validation and the remaining 10% for test. We set the last 75 classes in Table 22 as unknown classes and the splits on different \mathcal{H} is shown in Table 9.

Table 9. Diverse splits on different \mathcal{H} for DomainNet dataset.

Domain	Class			
	$\mathcal{H} = 0$	$\mathcal{H} = 1/10$	$\mathcal{H} = 1/5$	$\mathcal{H} = 1$
Source 1	1-54	1-108	1-135	1-270
Source 2	55-108	55-162	46-180	1-270
Source 3	109-162	109-216	91-225	1-270
Source 4	163-216	163-270	136-270	1-270
Source 5	217-270	217-270,1-54	181-270,1-45	1-270
Target	1-345	1-345	1-345	1-345

8.2. Implementation Details

We use the fundamental experimental settings in [33], including data augmentation protocols and training hyper-parameters. For PACS and OfficeHome, we totally train the model for 50 epochs with initial learning rate to 0.001. For DomainNet, the learning rate is set to 0.002 with 100 epochs training. We use the SGD optimizer and the batch size is set to 32 for all experiments. For hyper-parameters, the optimal value on τ , α and β is 0.5, 0.8, 0.1 for PACS and OfficeHome, and 0.05, 0.2, 0.1 for DomainNet.

9. Additional Results

In this section, we present the results on each domain to expound the results in Table 1, 2, 3. Experiments are all conducted over three runs to avoid fluctuation.

1. Results on OfficeHome. We show the results on art, clipart, product, real world in Table 10, 11, 12, 13. It can be observed that especially on the results when $\mathcal{H} = 0$, SCI-PD can exceed ERM [25] with 11.37% and 11.85% on the H-score of art and real world domain. The gap decreases when \mathcal{H} gets larger that demonstrate the robustness of our method. Also, even when $\mathcal{H} = 1$, SCI-PD still outperforms all methods with a large margin.

2. Results on PACS. Results on art painting, cartoon, photo, sketch are presented in Table 14, 15, 16, 17. We discover that due to the simplicity of PACS, the improvement can be slight when $\mathcal{H} = 1$. Also, EDir-CORAL

[33] can be a strong SOTA method that achieve comparable performance on several domains. Nevertheless, EdirCORAL consumes more computational costs and time as shown in Fig. 1. Moreover, when facing data scarcity, SCI-PD performs better than all methods with higher H-score that proves the robustness of our method.

3. Results on DomainNet. Results on art painting, cartoon, photo, sketch are presented in Table 18, 19, 20, 21. We discover that when $\mathcal{H} = 0$, the improvement on each domain is massive with at least 34.1% on the most difficult domain quickdraw, compared with the accuracy of ERM [25]. Meanwhile, compared with CLIPBase, our method can improve 7.52% and 5.39% on accuracy and H-score for clipart domain when $\mathcal{H} = 1$, while a 4.78% and 3.57% on average that is an enormous enhancement for DomainNet dataset.

Table 10. Results on OfficeHome when $\mathcal{H} = 0$.

Method	Art		Clipart		Product		Real World		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	35.87	37.94	39.29	40.25	52.88	46.87	56.30	50.71	46.09	43.94
ARPL [5]	34.48	37.53	38.07	39.08	50.81	46.56	53.90	49.94	44.31	43.28
RSC [20]	32.65	35.15	37.09	39.26	48.39	45.62	49.66	46.31	41.95	41.59
MMD [30]	42.32	42.06	39.37	40.87	58.70	50.06	62.71	56.23	50.77	47.30
Mixstyle [59]	39.42	40.67	41.96	42.23	54.37	48.77	59.26	53.52	48.75	46.30
CORAL [43]	49.24	47.74	41.90	42.89	63.53	53.70	65.89	58.62	55.14	50.74
DAML [40]	43.65	44.33	43.02	43.48	57.30	50.20	62.60	56.33	51.64	48.60
EDir-CORAL [33]	43.45	44.86	44.82	44.28	56.76	49.96	63.00	57.20	52.01	49.07
XDED [26]	39.64	40.59	42.31	42.16	55.32	49.31	59.15	52.95	49.11	46.25
RISE [21]	37.71	41.46	36.94	38.60	47.71	45.55	51.95	47.99	43.58	43.40
CLIPBase	43.21	45.18	41.18	42.93	59.24	53.85	65.89	57.89	52.38	49.96
SCI-PD	50.02	49.31	46.37	45.75	62.09	56.59	69.29	62.56	56.94	53.55

Table 11. Results on OfficeHome when $\mathcal{H} = 1/6$.

Method	Art		Clipart		Product		Real World		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	44.45	45.11	42.05	40.58	56.92	52.13	59.13	53.57	50.64	47.85
ARPL [5]	42.33	44.25	40.08	39.07	54.65	50.98	57.41	52.41	48.62	46.68
RSC [20]	42.33	43.47	39.18	39.13	52.69	50.12	54.64	51.22	47.21	45.98
MMD [30]	49.67	46.99	42.99	41.31	58.90	52.79	62.93	56.37	53.62	49.37
Mixstyle [59]	46.12	46.60	44.89	43.43	59.06	53.34	62.39	56.49	53.11	49.97
CORAL [43]	55.99	51.28	43.39	40.73	62.66	56.59	66.84	60.36	57.22	52.24
DAML [40]	49.80	48.76	47.02	44.98	59.58	55.36	63.39	58.12	54.95	51.80
EDir-CORAL [33]	49.83	48.81	47.18	45.04	59.71	55.07	63.66	58.80	55.09	51.93
XDED [26]	48.93	47.92	43.45	41.72	58.76	55.06	62.15	56.32	53.32	50.26
RISE [21]	46.20	46.48	37.81	40.21	52.45	52.08	57.89	53.56	48.59	48.08
CLIPBase	48.54	48.35	40.85	40.76	60.29	56.63	68.22	60.10	54.48	51.46
SCI-PD	51.30	52.19	45.34	44.36	65.34	62.18	71.00	65.26	58.25	56.00

Table 12. Results on OfficeHome when $\mathcal{H} = 1/3$.

Method	Art		Clipart		Product		Real World		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	54.00	49.88	46.18	44.81	67.35	57.87	72.16	62.34	59.92	53.73
ARPL [5]	50.56	49.62	45.91	44.60	65.11	56.74	69.12	61.29	57.68	53.06
RSC [20]	50.92	49.59	43.94	43.41	64.64	58.16	68.26	58.71	56.94	52.47
MMD [30]	56.66	51.95	47.13	45.69	68.43	58.21	72.60	62.92	61.21	54.69
Mixstyle [59]	54.44	50.81	49.80	46.86	67.53	57.61	72.82	63.43	61.15	54.68
CORAL [43]	60.62	55.41	47.63	45.57	70.83	61.92	74.40	64.47	63.37	56.84
DAML [40]	54.31	52.68	53.46	49.96	68.55	60.87	72.54	63.93	62.22	56.86
EDir-CORAL [33]	54.42	52.37	51.97	49.22	68.59	60.96	72.62	64.49	61.90	56.76
XDED [26]	56.84	52.38	48.41	46.90	68.94	59.45	73.63	63.86	61.96	55.65
RISE [21]	52.18	50.46	48.36	47.35	64.67	59.22	71.60	61.73	59.20	54.69
CLIPBase	54.19	51.95	46.78	46.53	67.24	59.37	74.97	64.32	60.80	55.54
SCI-PD	57.48	55.18	49.85	48.28	70.79	62.49	76.51	66.32	63.66	58.07

Table 13. Results on OfficeHome when $\mathcal{H} = 1$.

Method	Art		Clipart		Product		Real World		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	60.34	56.15	49.62	47.21	74.73	61.89	77.50	65.90	65.55	57.79
ARPL [5]	57.02	53.11	49.52	47.90	72.51	61.36	75.26	65.42	63.58	56.95
RSC [20]	58.22	54.63	48.39	47.33	72.16	62.18	75.57	64.87	63.59	57.25
MMD [30]	59.91	55.90	52.13	49.39	73.80	62.43	76.27	65.56	65.53	58.32
Mixstyle [59]	60.94	56.40	53.59	50.19	75.19	62.87	77.84	66.55	66.89	59.00
CORAL [43]	64.46	58.75	51.63	48.44	76.77	63.83	77.86	67.47	67.68	59.62
DAML [40]	59.36	56.58	58.00	53.78	75.35	64.89	76.73	67.19	67.36	60.61
EDir-CORAL [33]	58.22	54.76	56.66	52.52	75.05	64.71	77.29	67.60	66.81	59.90
XDED [26]	61.94	57.87	51.77	49.21	75.72	63.98	78.14	67.73	66.89	59.70
RISE [21]	60.42	55.44	49.36	49.60	75.18	65.12	78.30	67.68	65.82	59.46
CLIPBase	58.48	56.34	49.73	48.07	72.36	63.50	78.57	67.00	64.78	58.73
SCI-PD	61.84	58.98	53.66	50.91	76.25	66.88	80.55	70.02	68.08	61.70

Table 14. Results on PACS when $\mathcal{H} = 0$.

Method	Art Painting		Cartoon		Photo		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	34.08	33.33	29.82	29.36	47.23	33.33	32.27	0.02	35.85	28.97
ARPL [5]	33.94	32.53	34.06	30.27	47.12	45.32	33.78	13.34	37.22	30.37
Mixstyle [59]	42.72	40.65	39.33	33.65	54.71	24.52	35.8	13.17	43.14	28.00
MMD [30]	39.32	35.48	29.79	29.90	50.32	54.47	33.03	31.70	38.12	37.89
CORAL [43]	32.90	32.32	34.48	31.73	52.80	48.56	39.23	37.76	39.85	37.59
EDir-CORAL [33]	40.34	38.22	33.09	30.52	53.61	44.32	37.98	35.35	41.25	37.10
XDED [26]	32.83	32.26	35.86	32.97	46.20	0.46	31.49	1.14	36.60	16.71
CIRL [32]	49.85	29.97	54.15	38.8	49.27	48.28	48.01	24.03	50.32	35.27
RISE [21]	32.52	28.19	43.37	44.20	52.76	65.11	29.40	0.52	39.51	34.51
CLIPBase	37.42	36.20	45.35	38.05	61.66	62.27	31.22	16.39	43.91	38.23
SCI-PD	43.72	41.34	50.30	40.88	69.74	65.35	31.00	20.14	48.69	41.93

Table 15. Results on PACS when $\mathcal{H} = 1/6$.

Method	Art Painting		Cartoon		Photo		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	52.06	43.77	53.76	45.78	57.05	53.30	46.34	39.40	52.30	45.57
ARPL [5]	55.55	45.45	54.75	44.05	57.60	57.44	50.08	40.89	54.50	46.96
Mixstyle [59]	60.97	50.65	62.44	50.20	65.40	51.50	54.24	42.50	60.76	48.71
MMD [30]	53.41	47.19	58.24	49.31	67.56	62.66	47.26	44.41	56.62	50.89
CORAL [43]	56.03	43.78	62.64	50.74	78.08	58.65	45.21	39.93	60.49	48.27
EDir-CORAL [33]	61.43	50.13	68.61	53.76	83.14	68.70	62.04	54.38	68.81	56.74
XDED [26]	52.99	44.42	53.70	47.82	54.20	21.06	45.30	39.12	51.55	38.11
CIRL [32]	60.51	36.79	59.48	37.97	66.49	50.12	59.34	44.63	61.46	42.38
RISE [21]	55.83	42.38	66.84	56.80	71.65	69.84	45.14	43.54	59.87	53.14
CLIPBase	55.70	47.88	68.63	56.09	86.62	77.02	46.35	39.58	64.32	55.14
SCI-PD	59.77	49.95	69.09	56.97	84.03	76.91	53.43	43.64	66.58	56.87

Table 16. Results on PACS when $\mathcal{H} = 1/3$.

Method	Art Painting		Cartoon		Photo		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	73.86	59.46	62.92	57.55	86.94	87.60	61.81	40.19	71.38	61.20
ARPL [5]	74.69	58.53	63.26	54.71	87.75	87.29	62.39	45.84	72.03	61.59
Mixstyle [59]	79.88	62.27	67.33	57.93	90.63	80.35	69.97	58.97	76.95	64.88
MMD [30]	70.77	59.88	69.71	59.54	90.57	86.90	64.60	50.63	73.91	64.24
CORAL [43]	66.87	58.21	66.36	58.56	87.61	77.47	69.88	57.61	72.68	62.96
EDir-CORAL [33]	80.45	67.02	68.45	63.19	91.30	80.15	73.78	58.73	78.49	67.27
XDED [26]	76.78	61.00	62.63	58.24	87.75	71.34	68.85	55.42	74.00	61.50
CIRL [32]	76.92	42.35	71.84	44.88	75.78	49.09	64.79	43.96	72.33	45.07
RISE [21]	74.85	67.45	73.98	61.65	93.70	92.28	59.84	59.16	75.59	70.14
CLIPBase	77.38	63.69	74.01	62.06	93.29	90.11	71.97	60.94	79.16	69.20
SCI-PD	80.66	66.85	72.36	62.14	93.59	91.21	73.91	63.92	80.13	71.03

Table 17. Results on PACS when $\mathcal{H} = 1$.

Method	Art Painting		Cartoon		Photo		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	85.26	69.83	77.22	63.65	95.91	92.57	72.86	56.02	82.81	70.52
ARPL [5]	84.01	66.48	77.50	58.71	94.91	91.50	71.22	56.25	81.91	68.24
Mixstyle [59]	86.62	68.81	79.54	63.01	95.45	89.29	74.83	63.77	84.11	71.22
MMD [30]	80.84	69.08	77.05	61.25	90.06	86.60	72.87	60.50	80.21	69.36
CORAL [43]	81.47	67.39	78.18	60.57	90.98	82.38	78.45	65.74	82.27	69.02
EDir-CORAL [33]	81.63	68.81	80.66	65.21	91.84	83.15	83.76	70.99	84.48	72.04
XDED [26]	85.76	71.11	80.27	64.90	95.40	87.27	75.51	61.39	84.23	71.17
CIRL [32]	87.96	59.26	78.56	60.40	92.00	73.55	82.62	57.65	85.29	62.72
RISE [21]	80.98	76.30	84.18	69.57	96.85	95.26	66.40	61.71	82.10	75.71
CLIPBase	85.12	70.92	80.87	66.50	95.58	92.45	75.32	61.68	84.22	72.89
SCI-PD	86.20	73.05	82.24	67.86	95.88	94.40	76.68	64.81	85.25	75.03

Table 18. Results on DomainNet when $\mathcal{H} = 0$.

Method	Clipart		Infograph		Painting		Quickdraw		Real		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	23.22	28.97	7.59	11.65	20.10	25.84	4.81	7.14	25.36	30.37	22.21	27.65	17.21	21.94
ARPL [5]	23.35	29.26	7.18	10.79	20.12	25.84	4.55	6.90	25.56	30.61	21.82	27.26	17.10	21.78
Mixstyle [59]	23.87	29.62	7.51	11.54	20.75	26.83	5.45	7.95	25.33	30.58	22.77	28.66	17.61	22.53
XDED [26]	23.98	29.74	7.98	12.04	20.40	26.23	4.79	7.34	25.90	31.05	22.71	28.23	17.63	22.44
CLIPBase	32.47	36.62	10.38	15.36	28.13	31.88	6.38	9.43	40.23	42.69	30.08	33.01	24.61	28.16
SCI-PD	34.69	38.04	10.52	15.45	28.63	32.88	6.45	9.01	39.69	42.51	31.69	34.88	25.28	28.80

Table 19. Results on DomainNet when $\mathcal{H} = 1/10$.

Method	Clipart		Infograph		Painting		Quickdraw		Real		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	38.82	42.02	12.55	17.97	29.21	34.51	8.70	12.35	40.49	42.13	32.73	37.46	27.08	31.07
ARPL [5]	39.12	42.18	11.46	15.71	29.66	34.65	8.92	12.57	40.80	42.56	33.44	38.12	27.23	30.97
Mixstyle [59]	39.18	42.67	12.32	17.69	29.88	35.36	9.84	13.70	40.22	42.38	33.79	38.07	27.54	31.64
XDED [26]	39.94	42.41	12.83	18.25	30.26	35.95	9.09	12.44	41.25	43.20	33.82	38.29	27.86	31.76
CLIPBase	42.61	44.76	13.55	19.06	36.04	39.87	8.82	12.53	50.07	48.85	38.09	41.15	31.53	34.37
SCI-PD	47.43	47.64	15.11	20.59	37.62	41.60	9.95	13.27	52.63	51.34	40.62	43.32	33.89	36.30

Table 20. Results on DomainNet when $\mathcal{H} = 1/5$.

Method	Clipart		Infograph		Painting		Quickdraw		Real		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	42.07	44.85	13.81	19.44	34.50	39.55	9.13	12.89	45.68	46.38	34.68	39.13	29.98	33.71
ARPL [5]	43.52	46.16	13.91	19.10	35.51	40.11	9.62	13.48	44.92	46.38	35.31	39.81	30.46	34.17
Mixstyle [59]	42.17	44.72	14.29	20.19	35.06	39.87	10.09	13.87	45.01	45.91	35.93	40.12	30.42	34.11
XDED [26]	43.10	44.96	14.57	20.01	35.49	40.41	9.53	13.10	46.33	47.12	35.74	39.64	30.79	34.21
CLIPBase	43.93	45.90	14.41	20.38	38.84	43.19	9.03	12.98	52.17	50.46	39.63	42.75	33.00	35.94
SCI-PD	50.13	50.10	16.34	22.40	41.38	45.35	10.67	14.53	55.34	53.03	42.66	44.79	36.09	38.36

Table 21. Results on DomainNet when $\mathcal{H} = 1$.

Method	Clipart		Infograph		Painting		Quickdraw		Real		Sketch		Average	
	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score	Acc	H-score
ERM [25]	54.30	53.41	18.32	25.12	43.83	47.16	12.26	16.16	57.13	54.58	46.29	47.79	38.69	40.70
ARPL [5]	55.05	54.23	17.91	24.34	44.29	47.02	12.55	16.62	56.64	54.89	46.95	49.16	38.90	41.05
Mixstyle [59]	53.32	53.02	18.53	24.86	44.16	47.52	13.63	17.69	56.18	53.94	46.43	48.13	38.71	40.86
XDED [26]	54.00	53.17	18.68	25.19	44.57	47.82	12.51	16.17	57.21	55.22	46.90	48.20	38.98	40.96
CLIPBase	48.79	49.77	16.45	22.73	43.47	47.28	10.23	14.28	56.83	53.93	43.72	45.87	36.58	38.98
SCI-PD	56.31	55.16	19.78	26.30	47.98	50.31	11.98	16.12	62.11	57.27	50.02	50.16	41.36	42.55

Table 22. Sequential category names of three datasets.

Dataset	Known Classes	Unknown Classes
OfficeHome	'Drill', 'Exit Sign', 'Bottle', 'Glasses', 'Computer', 'File Cabinet', 'Shelf', 'Toys', 'Sink', 'Laptop', 'Kettle', 'Folder', 'Keyboard', 'Flipflops', 'Pencil', 'Bed', 'Hammer', 'ToothBrush', 'Couch', 'Bike', 'Postit Notes', 'Mug', 'Webcam', 'Desk Lamp', 'Telephone', 'Helmet', 'Mouse', 'Pen', 'Monitor', 'Mop', 'Sneakers', 'Notebook', 'Backpack', 'Alarm Clock', 'Push Pin', 'Paper Clip', 'Batteries', 'Radio', 'Fan', 'Ruler', 'Pan', 'Screwdriver', 'Trash Can', 'Printer', 'Speaker', 'Eraser', 'Bucket', 'Chair', 'Calendar', 'Calculator', 'Flowers', 'Lamp Shade', 'Spoon', 'Candles'	'Clipboards', 'Scissors', 'TV', 'Curtains', 'Fork', 'Soda', 'Table', 'Knives', 'Oven', 'Refrigerator', 'Marker'
PACS	'dog', 'elephant', 'giraffe', 'guitar', 'horse', 'house'	'person'
DomainNet	'aircraft carrier', 'airplane', 'alarm clock', 'ambulance', 'angel', 'animal migration', 'ant', 'anvil', 'apple', 'arm', 'asparagus', 'axe', 'backpack', 'banana', 'bandage', 'barn', 'baseball', 'baseball bat', 'basket', 'basketball', 'bat', 'bathtub', 'beach', 'bear', 'beard', 'bed', 'bee', 'belt', 'bench', 'bicycle', 'binoculars', 'bird', 'birthday cake', 'blackberry', 'blueberry', 'book', 'boomerang', 'bottlecap', 'bowtie', 'bracelet', 'brain', 'bread', 'bridge', 'broccoli', 'broom', 'bucket', 'bulldozer', 'bus', 'bush', 'butterfly', 'cactus', 'cake', 'calculator', 'calendar', 'camel', 'camera', 'camouflage', 'campfire', 'candle', 'cannon', 'canoe', 'car', 'carrot', 'castle', 'cat', 'ceiling fan', 'cello', 'cell phone', 'chair', 'chandelier', 'church', 'circle', 'clarinet', 'clock', 'cloud', 'coffee cup', 'compass', 'computer', 'cookie', 'cooler', 'couch', 'cow', 'crab', 'crayon', 'crocodile', 'crown', 'cruise ship', 'cup', 'diamond', 'dishwasher', 'diving board', 'dog', 'dolphin', 'donut', 'door', 'dragon', 'dresser', 'drill', 'drums', 'duck', 'dumbbell', 'ear', 'elbow', 'elephant', 'envelope', 'eraser', 'eye', 'eyeglasses', 'face', 'fan', 'feather', 'fence', 'finger', 'fire hydrant', 'fireplace', 'firetruck', 'fish', 'flamingo', 'flashlight', 'flip flops', 'floor lamp', 'flower', 'flying saucer', 'foot', 'fork', 'frog', 'frying pan', 'garden', 'garden hose', 'giraffe', 'goatee', 'golf club', 'grapes', 'grass', 'guitar', 'hamburger', 'hammer', 'hand', 'harp', 'hat', 'headphones', 'hedgehog', 'helicopter', 'helmet', 'hexagon', 'hockey puck', 'hockey stick', 'horse', 'hospital', 'hot air balloon', 'hot dog', 'hot tub', 'hourglass', 'house', 'house plant', 'hurricane', 'ice cream', 'jacket', 'jail', 'kangaroo', 'key', 'keyboard', 'knee', 'knife', 'ladder', 'lantern', 'laptop', 'leaf', 'leg', 'light bulb', 'lighter', 'light house', 'lightning', 'line', 'lion', 'lipstick', 'lobster', 'lollipop', 'mailbox', 'map', 'marker', 'matches', 'megaphone', 'mermaid', 'microphone', 'microwave', 'monkey', 'moon', 'mosquito', 'motorbike', 'mountain', 'mouse', 'moustache', 'mouth', 'mug', 'mushroom', 'nail', 'necklace', 'nose', 'ocean', 'octagon', 'octopus', 'onion', 'oven', 'owl', 'paintbrush', 'paint can', 'palm tree', 'panda', 'pants', 'paper clip', 'parachute', 'parrot', 'passport', 'peanut', 'pear', 'peas', 'pencil', 'penguin', 'piano', 'pickup truck', 'picture frame', 'pig', 'pillow', 'pineapple', 'pizza', 'pliers', 'police car', 'pond', 'pool', 'pop-sicle', 'postcard', 'potato', 'power outlet', 'purse', 'rabbit', 'raccoon', 'radio', 'rain', 'rainbow', 'rake', 'remote control', 'rhinoceros', 'rifle', 'river', 'roller coaster', 'rollerskates', 'sailboat', 'sandwich', 'saw', 'saxophone', 'school bus', 'scissors', 'scorpion', 'screwdriver', 'sea turtle', 'see saw', 'shark', 'sheep', 'shoe', 'shorts', 'shovel', 'sink', 'skateboard', 'skull', 'skyscraper', 'sleeping bag', 'smiley face', 'snail', 'snake'	'snorkel', 'snowflake', 'snowman', 'soccer ball', 'sock', 'speedboat', 'spider', 'spoon', 'spreadsheet', 'square', 'squiggle', 'squirrel', 'stair', 'stairs', 'star', 'steak', 'stereo', 'stethoscope', 'stitches', 'stop sign', 'stove', 'strawberry', 'streetlight', 'string bean', 'submarine', 'suitcase', 'sun', 'swan', 'sweater', 'swing set', 'sword', 'syringe', 'table', 'teapot', 'teddy-bear', 'telephone', 'television', 'tennis racquet', 'tent', 'The Eiffel Tower', 'The Great Wall of China', 'The Mona Lisa', 'tiger', 'toaster', 'toe', 'toilet', 'tooth', 'toothbrush', 'toothpaste', 'tornado', 'tractor', 'traffic light', 'train', 'tree', 'triangle', 'trombone', 'truck', 'trumpet', 't-shirt', 'umbrella', 'underwear', 'van', 'vase', 'violin', 'washing machine', 'watermelon', 'waterslide', 'whale', 'wheel', 'windmill', 'wine bottle', 'wine glass', 'wristwatch', 'yoga', 'zebra', 'zigzag'