# UniFormerV2: 🔓Unlocking the Potential of Image ViTs for Video Understanding

## Supplementary Material

| Dataset | Training #Samples | Validation #Samples | Average Length | #Actions |
|---|---|---|---|---|
| Kinetics-710 (ours) | 658,340 | 66,803 | 10s | 710 |
| Kinetics-400 [36] | 240,436<br>246,245* | 19,787<br>20,000* | 10s | 400 |
| Kinetics-600 [9] | 366,006<br>392,622* | 27,935<br>30,000* | 10s | 600 |
| Kinetics-700 [10] | 529,573<br>545,317* | 33,861<br>35,000* | 10s | 700 |
| MiT V1 [50] | 802,244<br>802,264* | 33,899<br>33,900* | 3s | 339 |
| SthSth V1 [24] | 86,017 | 11,522 | 4.0s | 174 |
| SthSth V2 [24] | 168,913 | 24,777 | 4.0s | 174 |
| ActivityNet [27] | 10,024 | 4,926 | 117s | 200 |
| HACS [89] | 37,452 | 5,953 | 149s | 200 |

Table 14: **Dataset descriptions.** * indicates the original video number.

## A. Additional implement details

**Datasets.** In Table 14, we give more details of our datasets. *Kinetics* family [36] is the most widely-used benchmark, includes Kinetics-400 [36], Kinetics-600 [9] and Kinetics-700 [10]. Since some videos are unavailable on YouTube, the Kinetics datasets are gradually shrinking over time. We report the video number of our version for a more fair comparison. *Moments in Time* V1 [50] contains 0.8M 3-second video clips annotated with 339 classes, which suggests capturing the gist of a dynamic scene. *Something-Something* V1/V2 [24] consist of 174 actions interacted with everyday objects. They require strong temporal modeling to distinguish confusing actions such as opening/closing something. *ActivityNet* [27] and *HACS* [89] are two large-scale untrimmed video benchmark. They respectively contain about 20K and 50K videos in 200 human daily living actions. For these two datasets, we sample those video clips containing action for training, thus we do not add another background class. When testing, we sample the frames sparsely from the whole untrimmed videos.

**Implementation Details.** For the scene-related datasets, we only insert the global UniBlocks in the last 4 layers of ViT-B/L to perform multi-stage fusion, since the local UniBlocks and temporal downsampling do not further improve the results in Table 1. But for Something-Something V1/V2, we adopt all the designs and insert the global UniBlocks in the last 8/16 layers of ViT-B/L for better temporal modeling. Besides, when finetuning those models with large-scale dataset pretraining, it is necessary to initialize the new parameters properly. For stable training, we zero initialize some of the layers, including the last point-wise convolutions in the local temporal MHRA, the query tokens and output projection layers in the query-based cross MHRA, the last linear layers in the FFN of the global UniBlock, and the learnable fusion weights. What's more, we provide the detailed hyperparameters in Table 15. Most of the training scripts follow UniFormer [39], but differently, we do not apply Mixup [87], CutMix [84], Label Smoothing [63] and Random Erasing [91]. When finetuning the full models on Kinetics directly from image pretraining, we adopt the same hyperparameters as in K710 pretraining. If the backbone is frozen, we use a larger learning rate (4e-4) without warmup.

| | K710 | K | M | A&H | SS |
|---|---|---|---|---|---|
| *Optimization* | | | | | |
| Optimizer | AdamW [47] | | | | |
| Momentum | $\beta_1, \beta_2 = 0.9, 0.999$ | | | | |
| Weight decay | 0.05 | | | | |
| Learning rate schedule | cosine decay [48] | | | | |
| Start learning rate | 1e-6 | | | | |
| End learning rate | 1e-6 | | | | |
| Batch size | 512 | 256 | 512 | 64 | 128 |
| Learning rate (Base) | 2e-5 | 2e-6 | 2e-5 | - | 4e-5 |
| Learning rate (Large) | 1e-5 | 1.5e-6 | 1e-5 | 5e-6 | 2e-5 |
| Warmup epochs [23] | 5 | 1 | 5 | 5 | 5 |
| Total epochs (Base) | 55 | 5 | 24 | - | 22 |
| Total epochs (Large) | 40 | 5 | 18 | 20 | 15 |
| *Data augmentation* | | | | | |
| Inception-style cropping [62] | | | | | |
| Scale | [0.08, 1.00] | | | | |
| Jitter aspect ratio | [0.75, 1.33] | | | | |
| Color jitter | 0.4 | | | | |
| Rand augment [15] | rand-m7-n4-mstd0.5-inc1 | | | | |
| Repeated sampling [29] | 1 | 1 | 1 | 2 | 2 |
| *Regularisation* | | | | | |
| Dropout [61] | | | | | |
| Backbone | 0.5 | | | | |
| Global branch | 0.5 | | | | |
| Drop path [31] | | | | | |
| Backbone | - | - | - | 0.2 | 0.2 |
| Global branch | - | - | - | 0.4 | 0.4 |

Table 15: **Training hyperparameters for our experiments.** "-" indicates that the related method is not used. Values constant in all the datasets are listed once. Datasets are denoted as follows: K (Kinetics), M (MiT V1), A&H (ActivityNet&HACS), SS (SthSth V1&V2).

**Training Cost.** In Table 6, we compare different training scripts. When finetuning Kinetics-400, 600 and 700 individually, we train the models for 55 epochs, and the total training data is about $0.24+0.366+0.529 \approx 1.14$M. When pretraining with Kinetics-710 (0.66M), we only finetune the models for 5 epochs. Thus the percentage of saving cost is

| Method | Frame× Crop×Clip | Param (M) | FLOPs (T) | SSV1 | | SSV2 | |
|---|---|---|---|---|---|---|---|
| | | | | Top-1 | Top-5 | Top-1 | Top-5 |
| UniFormerV2-B/16 | 16×3×1 | 163 | 0.6 | 56.8 | 84.2 | 69.5 | 92.3 |
| UniFormerV2-B/16 | 16×3×2 | 163 | 1.1 | 57.2 | 84.3 | 69.7 | 92.5 |
| UniFormerV2-B/16 | 32×3×1 | 163 | 1.1 | 59.4 | **86.2** | 70.7 | **93.2** |
| UniFormerV2-B/16 | 32×3×2 | 163 | 2.2 | **59.5** | **86.2** | **71.0** | **93.2** |
| UniFormerV2-L/14 | 16×3×1 | 574 | 2.6 | 60.5 | 86.5 | 72.1 | 93.6 |
| UniFormerV2-L/14 | 16×3×2 | 574 | 5.2 | 60.9 | 86.8 | 72.2 | 93.7 |
| UniFormerV2-L/14 | 32×3×1 | 574 | 5.2 | 62.7 | 88.0 | 73.0 | **94.5** |
| UniFormerV2-L/14 | 32×3×2 | 574 | 10.3 | **62.9** | **88.3** | **73.1** | **94.5** |

Table 16: **More results on Something-Something.** All models are directly finetuned from CLIP.

| Method | Frame× Crop×Clip | K400 |
|---|---|---|
| Only Global | 8×3×4 | 81.8 |
| Local+Global | 8×3×4 | **84.4** |

Table 17: **Output token combination.**

| Method | Frame× Crop×Clip | SSV1 | SSV2 |
|---|---|---|---|
| CLIP-400M | 16×3×1 | **56.8** | **69.5** |
| CLIP-400M+K400 | 16×3×1 | 55.8 | 68.4 |

Table 18: **K400 pretraining.**

| Method | Param (M) | SSV2 |
|---|---|---|
| Mean Pooling [72] | 86 | 45.1 |
| Temporal Shift [43] | 86 | 65.7 |
| Divided Space-Time MHSA [4] | 114 | 63.4 |
| Joint Space-Time MHSA [4] | 86 | 65.8 |
| Temporal Transformer [49] | 128 | 61.5 |
| Temporal Convolution [69] | 86 | 65.6 |
| Our Local MHRA | 97 | **67.3** |

Table 19: **Different local modules.**

as follows,

$$1 - \frac{0.66 \times 55 + 1.14 \times 5}{1.14 \times 55} \approx 0.33 \tag{14}$$

Thus we save almost 33% of the training cost. More importantly, for the models with more frames (16, 32, or even 64), we only need to finetune the K710 pretrained models with 8 frames. Our training scripts are very efficient and effective for the Kinetics family.

## B. More ablation studies

We conduct more ablation studies based on CLIP-ViT-B/16 [56].

**Output token combination.** When only using the global token for classification, the top-1 accuracy drops from 84.4% to 81.8% in Table 17. It shows that both local and global output tokens are essential for maintaining performance.

**Kinetics pretraining for Something-Something.** Different from the prior works [39, 20], in Table 18, we find that extra Kinetics pretraining harms the representation inherited from CLIP, leading to lower performance.

**Different modules.** In Table 19, we compare our local MHRA with popular temporal modules, including simple mean pooling [72], divided and joint space-time MHSA [4], temporal convolution [69], temporal shift [43] and temporal transformer [59]. All the modules are inserted before all the spatial MHSA, except that the 6-layer temporal transformer is added after the backbone. The results show that our local MHRA beats the previous methods, achieving 1.5% to 22.2% higher top-1 accuracy. It demonstrates the effectiveness of our local MHRA for temporal modeling.

## C. Additional results

In Table 20, Table 21, Table 16 and Table 22, we give more results on the 8 video benchmarks, i.e., Kinetics-400/600/700, Moments in Time V1, Something-Something V1/V2, ActivityNet and HACS.

## D. Label list of Kinetics-710

To generate our Kinetics-710, we align labels in different Kinetics datasets by filtering symbols and replacing synonyms. The final label list is shown in Table23. Compared with Kinetics-700, there are 8 and 2 unique labels in Kinetics-400 and Kinetics-600 respectively. When finetuning the models pretrained on Kinetics-710, it is vital to load the pretrained weight of the classification layer, thus we map the weight according to the label list.

| Method | Pretraining Data | Frame×Crop×Clip | Param (M) | FLOPs (T) | K400 | | K600 | | K700 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Top-1 | Top-5 | Top-1 | Top-5 | Top-1 | Top-5 |
| UniFormerV2-B/16 | CLIP-400M | 8×1×3 | 115 | 0.4 | 84.0 | 96.3 | 84.8 | 96.8 | 75.4 | 92.6 |
| UniFormerV2-B/16 | | 8×3×4 | 115 | 1.6 | 84.4 | 96.3 | 85.0 | 97.0 | 75.8 | 92.8 |
| UniFormerV2-L/14 | | 8×1×3 | 354 | 2.0 | 87.3 | 97.7 | 87.8 | 97.6 | 80.0 | 95.0 |
| UniFormerV2-L/14 | | 8×3×4 | 354 | 8.0 | 87.7 | 97.9 | 88.0 | 97.7 | 80.3 | 95.2 |
| UniFormerV2-B/16 | CLIP-400M+K710 | 8×1×3 | 115 | 0.4 | 85.2 | 96.7 | 85.6 | 97.0 | 75.8 | 92.4 |
| UniFormerV2-B/16 | | 8×3×4 | 115 | 1.8 | 85.6 | 97.0 | 86.1 | 97.2 | 76.3 | 92.7 |
| UniFormerV2-L/14 | | 8×1×3 | 354 | 2.0 | 88.4 | 97.9 | 88.6 | 98.1 | 80.4 | 95.2 |
| UniFormerV2-L/14 | | 8×3×4 | 354 | 8.0 | 88.8 | 98.1 | 89.0 | 98.2 | 80.8 | 95.4 |
| UniFormerV2-L/14 | | 16×3×1 | 354 | 4.0 | 88.9 | 98.0 | 89.2 | 98.2 | 80.9 | 95.4 |
| UniFormerV2-L/14 | | 16×3×4 | 354 | 16.0 | 89.1 | 98.2 | 89.4 | 98.3 | 81.2 | 95.6 |
| UniFormerV2-L/14 | | 32×3×1 | 354 | 16.0 | 89.2 | 98.2 | 89.3 | 98.2 | 81.3 | 95.6 |
| UniFormerV2-L/14 | | 32×3×2 | 354 | 16.0 | 89.3 | 98.2 | 89.5 | 98.3 | 81.5 | 95.7 |
| UniFormerV2-L/14 | | 32×3×4 | 354 | 32.0 | 89.5 | 98.2 | 89.5 | 98.3 | 81.4 | 95.8 |
| UniFormerV2-L/14 336↑ | | 32×3×2 | 354 | 37.6 | 89.7 | 98.3 | 89.9 | 98.5 | 82.1 | 96.1 |
| UniFormerV2-L/14 336↑ | | 32×3×4 | 354 | 75.3 | 89.7 | 98.3 | 89.9 | 98.5 | 82.2 | 96.1 |
| UniFormerV2-L/14 336↑ | | 64×3×2 | 354 | 75.3 | **90.0** | **98.4** | **90.1** | **98.5** | **82.7** | 96.2 |
| UniFormerV2-L/14 336↑ | | 64×3×4 | 354 | 150.6 | **90.0** | **98.4** | **90.1** | **98.5** | **82.7** | **96.3** |
| UniFormerV2-L/14 (frozen) 336↑ | CLIP-400M | 8×1×3 | 51 | 4.7 | 86.7 | 93.4 | 87.4 | 97.7 | 79.6 | 94.6 |
| UniFormerV2-L/14 (frozen) 336↑ | CLIP-400M+K710 | 8×1×3 | 51 | 4.7 | 87.8 | 98.0 | 88.2 | 98.0 | 79.7 | 94.7 |
| UniFormerV2-L/14 (frozen) 336↑ | | 32×3×1 | 51 | 18.8 | 88.8 | 98.1 | 89.1 | 98.2 | 80.6 | 95.2 |
| UniFormerV2-L/14 (frozen) 336↑ | | 32×3×4 | 51 | 75.3 | 88.9 | 98.2 | 89.2 | 98.2 | 80.8 | 95.4 |

Table 20: **More results on Kinetics-400, 600 and 700.**

| Method | Pretraining Data | Frame×Crop×Clip | Param (M) | FLOPs (T) | MiT | |
|---|---|---|---|---|---|---|
| | | | | | Top-1 | Top-5 |
| UniFormerV2-B/16 | CLIP-400M | 8×3×4 | 115 | 1.8 | 42.2 | 71.3 |
| UniFormerV2-B/16 | CLIP-400M | 32×3×4 | 115 | 7.2 | 42.2 | 71.5 |
| UniFormerV2-B/16 | CLIP-400M+K710 | 8×3×4 | 115 | 1.8 | **42.6** | 71.6 |
| UniFormerV2-B/16 | CLIP-400M+K710+K400 | 8×3×4 | 115 | 1.8 | **42.6** | **71.7** |
| UniFormerV2-B/16 | CLIP-400M+K710+K700 | 8×3×4 | 115 | 1.8 | 42.4 | 71.2 |
| UniFormerV2-L/14 | CLIP-400M | 8×3×4 | 354 | 8.0 | 46.2 | 76.0 |
| UniFormerV2-L/14 | CLIP-400M | 16×3×4 | 354 | 16.0 | 46.2 | **76.2** |
| UniFormerV2-L/14 | CLIP-400M | 32×3×4 | 354 | 32.0 | 46.4 | **76.2** |
| UniFormerV2-L/14 | CLIP-400M+K710 | 8×3×4 | 354 | 8.0 | 46.7 | **76.2** |
| UniFormerV2-L/14 | CLIP-400M+K710+K400 | 8×3×4 | 354 | 8.0 | **47.0** | 76.1 |
| UniFormerV2-L/14 336↑ | CLIP-400M | 8×3×4 | 354 | 18.8 | 47.2 | 76.5 |
| UniFormerV2-L/14 336↑ | CLIP-400M+K710 | 8×3×4 | 354 | 18.8 | 47.6 | 76.7 |
| UniFormerV2-L/14 336↑ | CLIP-400M+K710+K400 | 8×3×4 | 354 | 18.8 | **47.8** | **76.9** |

Table 21: **More results on Moments in Time V1.**

| Dataset | Pretraining Data | #Frame | 3×2 | | 3×4 | | 3×10 | |
|---|---|---|---|---|---|---|---|---|
| | | | Top-1 | Top-5 | Top-1 | Top-5 | Top-1 | Top-5 |
| ActivityNet | CLIP-400M+K400 | 8 | 92.8 | 99.0 | 92.8 | 99.1 | 93.0 | 99.1 |
| | CLIP-400M+K400 | 16 | 93.5 | 99.4 | 93.5 | 99.5 | 93.6 | 99.5 |
| | CLIP-400M+K710+K400 | 16 | 93.9 | 99.4 | 94.1 | 99.5 | 94.3 | 99.5 |
| | CLIP-400M+K710+K700 | 16 | 94.0 | 99.4 | 94.2 | 99.5 | 94.3 | **99.6** |
| | CLIP-400M+K710+K400 | 32 | 94.3 | **99.6** | 94.5 | **99.6** | **94.7** | 99.5 |
| HACS | CLIP-400M+K400 | 16 | 94.7 | 99.8 | 94.7 | 99.8 | 94.9 | **99.9** |
| | CLIP-400M+K710+K400 | 16 | 95.3 | 99.9 | 95.2 | 99.8 | **95.5** | 99.8 |
| | CLIP-400M+K710+K700 | 16 | 94.7 | 99.7 | 94.7 | 99.8 | 94.9 | 99.8 |
| | CLIP-400M+K710+K400 | 32 | 95.2 | 99.8 | 95.3 | 99.8 | 95.4 | 99.8 |

Table 22: **More results on ActivityNet and HACS.** All models are based on UniFormerV2-L/14.

Table 23: **Labels of Kinetics-710.**

| Label | K4 | K6 | K7 | Label | K4 | K6 | K7 | Label | K4 | K6 | K7 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| luge | × | ✓ | ✓ | krumping | ✓ | ✓ | ✓ | skiing mono | ✓ | ✓ | ✓ |
| yoga | ✓ | ✓ | ✓ | slapping | ✓ | ✓ | ✓ | ski jumping | ✓ | ✓ | ✓ |
| vault | ✓ | × | × | decoupage | × | × | ✓ | driving car | ✓ | ✓ | ✓ |
| squat | ✓ | ✓ | ✓ | arresting | × | × | ✓ | tap dancing | ✓ | ✓ | ✓ |
| lunge | ✓ | ✓ | ✓ | surveying | × | × | ✓ | hockey stop | ✓ | ✓ | ✓ |
| zumba | ✓ | ✓ | ✓ | fly tying | × | ✓ | ✓ | tobogganing | ✓ | ✓ | ✓ |
| situp | ✓ | ✓ | ✓ | capsizing | × | ✓ | ✓ | cooking egg | ✓ | ✓ | ✓ |
| sewing | × | ✓ | ✓ | tiptoeing | × | ✓ | ✓ | slacklining | ✓ | ✓ | ✓ |
| cumbia | × | ✓ | ✓ | using atm | × | ✓ | ✓ | pushing car | ✓ | ✓ | ✓ |
| crying | ✓ | ✓ | ✓ | waking up | × | ✓ | ✓ | ice skating | ✓ | ✓ | ✓ |
| dining | ✓ | ✓ | ✓ | fidgeting | × | ✓ | ✓ | ice fishing | ✓ | ✓ | ✓ |
| digging | ✓ | × | ✓ | tie dying | × | ✓ | ✓ | celebrating | ✓ | ✓ | ✓ |
| chasing | × | × | ✓ | wrestling | ✓ | ✓ | ✓ | windsurfing | ✓ | ✓ | ✓ |
| sieving | × | × | ✓ | whistling | ✓ | ✓ | ✓ | riding mule | ✓ | ✓ | ✓ |
| staring | × | ✓ | ✓ | high kick | ✓ | ✓ | ✓ | waxing legs | ✓ | ✓ | ✓ |
| karaoke | × | ✓ | ✓ | abseiling | ✓ | ✓ | ✓ | deadlifting | ✓ | ✓ | ✓ |
| burping | × | ✓ | ✓ | high jump | ✓ | ✓ | ✓ | bee keeping | ✓ | ✓ | ✓ |
| packing | × | ✓ | ✓ | trapezing | ✓ | ✓ | ✓ | pumping gas | ✓ | ✓ | ✓ |
| licking | × | ✓ | ✓ | skydiving | ✓ | ✓ | ✓ | tapping pen | ✓ | ✓ | ✓ |
| winking | × | ✓ | ✓ | bandaging | ✓ | ✓ | ✓ | headbanging | ✓ | ✓ | ✓ |
| arguing | × | ✓ | ✓ | side kick | ✓ | ✓ | ✓ | bookbinding | ✓ | ✓ | ✓ |
| ironing | ✓ | ✓ | ✓ | jetskiing | ✓ | ✓ | ✓ | flying kite | ✓ | ✓ | ✓ |
| drawing | ✓ | ✓ | ✓ | long jump | ✓ | ✓ | ✓ | fixing hair | ✓ | ✓ | ✓ |
| archery | ✓ | ✓ | ✓ | hopscotch | ✓ | ✓ | ✓ | egg hunting | ✓ | ✓ | ✓ |
| jogging | ✓ | ✓ | ✓ | dodgeball | ✓ | ✓ | ✓ | mowing lawn | ✓ | ✓ | ✓ |
| singing | ✓ | ✓ | ✓ | crocheting | × | × | ✓ | triple jump | ✓ | ✓ | ✓ |
| yawning | ✓ | ✓ | ✓ | ski ballet | × | × | ✓ | milking cow | ✓ | ✓ | ✓ |
| writing | ✓ | ✓ | ✓ | geocaching | × | ✓ | ✓ | doing nails | ✓ | ✓ | ✓ |
| push up | ✓ | ✓ | ✓ | bulldozing | × | ✓ | ✓ | dyeing hair | ✓ | ✓ | ✓ |
| tai chi | ✓ | ✓ | ✓ | cosplaying | × | ✓ | ✓ | eating cake | ✓ | ✓ | ✓ |
| sailing | ✓ | ✓ | ✓ | spelunking | × | ✓ | ✓ | paragliding | ✓ | ✓ | ✓ |
| welding | ✓ | ✓ | ✓ | jaywalking | × | ✓ | ✓ | headbutting | ✓ | ✓ | ✓ |
| smoking | ✓ | ✓ | ✓ | head stand | × | ✓ | ✓ | bobsledding | ✓ | ✓ | ✓ |
| parkour | ✓ | ✓ | ✓ | contorting | × | ✓ | ✓ | kitesurfing | ✓ | ✓ | ✓ |
| texting | ✓ | ✓ | ✓ | plastering | ✓ | ✓ | ✓ | petting cat | ✓ | ✓ | ✓ |
| bowling | ✓ | ✓ | ✓ | bartending | ✓ | ✓ | ✓ | waxing back | ✓ | ✓ | ✓ |
| kissing | ✓ | ✓ | ✓ | beatboxing | ✓ | ✓ | ✓ | making slime | × | × | ✓ |
| busking | ✓ | ✓ | ✓ | applauding | ✓ | ✓ | ✓ | steering car | × | × | ✓ |
| gargling | ✓ | × | ✓ | pole vault | ✓ | ✓ | ✓ | rolling eyes | × | × | ✓ |
| spraying | ✓ | × | ✓ | barbequing | ✓ | ✓ | ✓ | moving child | × | × | ✓ |
| coughing | × | × | ✓ | snowkiting | ✓ | ✓ | ✓ | pouring milk | × | × | ✓ |
| saluting | × | × | ✓ | making tea | ✓ | ✓ | ✓ | grooming cat | × | × | ✓ |
| shouting | × | × | ✓ | auctioning | ✓ | ✓ | ✓ | doing sudoku | × | × | ✓ |
| sleeping | × | ✓ | ✓ | snorkeling | ✓ | ✓ | ✓ | closing door | × | × | ✓ |
| smashing | × | ✓ | ✓ | testifying | ✓ | ✓ | ✓ | pouring wine | × | × | ✓ |
| tackling | × | ✓ | ✓ | high fiving | × | × | ✓ | cutting cake | × | × | ✓ |
| shopping | × | ✓ | ✓ | moving baby | × | × | ✓ | milking goat | × | × | ✓ |
| pinching | × | ✓ | ✓ | shoot dance | × | × | ✓ | playing oboe | × | × | ✓ |
| huddling | × | ✓ | ✓ | pirouetting | × | ✓ | ✓ | filling cake | × | × | ✓ |
| bottling | × | ✓ | ✓ | coloring in | × | ✓ | ✓ | sanding wood | × | × | ✓ |
| drooling | × | ✓ | ✓ | sawing wood | × | ✓ | ✓ | jumping sofa | × | × | ✓ |
| tickling | ✓ | ✓ | ✓ | calculating | × | ✓ | ✓ | taking photo | × | × | ✓ |
| knitting | ✓ | ✓ | ✓ | waving hand | × | ✓ | ✓ | silent disco | × | × | ✓ |
| unboxing | ✓ | ✓ | ✓ | watching tv | × | ✓ | ✓ | ironing hair | × | ✓ | ✓ |
| shot put | ✓ | ✓ | ✓ | calligraphy | × | ✓ | ✓ | planing wood | × | ✓ | ✓ |
| marching | ✓ | ✓ | ✓ | carving ice | × | ✓ | ✓ | gold panning | × | ✓ | ✓ |
| capoeira | ✓ | ✓ | ✓ | bodysurfing | × | ✓ | ✓ | pillow fight | × | ✓ | ✓ |
| pull ups | ✓ | ✓ | ✓ | lifting hat | × | ✓ | ✓ | combing hair | × | ✓ | ✓ |
| laughing | ✓ | ✓ | ✓ | bathing dog | × | ✓ | ✓ | laying stone | × | ✓ | ✓ |
| hurdling | ✓ | ✓ | ✓ | chewing gum | × | ✓ | ✓ | photobombing | × | ✓ | ✓ |
| sneezing | ✓ | ✓ | ✓ | parasailing | ✓ | ✓ | ✓ | playing lute | × | ✓ | ✓ |
| clapping | ✓ | ✓ | ✓ | sipping cup | ✓ | ✓ | ✓ | land sailing | × | ✓ | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| scrapbooking | × | ✓ | ✓ |
| tasting wine | × | ✓ | ✓ |
| docking boat | × | ✓ | ✓ |
| photocopying | × | ✓ | ✓ |
| clam digging | × | ✓ | ✓ |
| ice swimming | × | ✓ | ✓ |
| roasting pig | × | ✓ | ✓ |
| pouring beer | × | ✓ | ✓ |
| smoking pipe | × | ✓ | ✓ |
| lock picking | × | ✓ | ✓ |
| steer roping | × | ✓ | ✓ |
| hugging baby | × | ✓ | ✓ |
| embroidering | × | ✓ | ✓ |
| longboarding | × | ✓ | ✓ |
| laying tiles | × | ✓ | ✓ |
| playing gong | × | ✓ | ✓ |
| base jumping | × | ✓ | ✓ |
| playing polo | × | ✓ | ✓ |
| moon walking | × | ✓ | ✓ |
| opening door | × | ✓ | ✓ |
| tasting food | ✓ | ✓ | ✓ |
| shaving legs | ✓ | ✓ | ✓ |
| pumping fist | ✓ | ✓ | ✓ |
| making sushi | ✓ | ✓ | ✓ |
| snowmobiling | ✓ | ✓ | ✓ |
| tasting beer | ✓ | ✓ | ✓ |
| golf driving | ✓ | ✓ | ✓ |
| waxing chest | ✓ | ✓ | ✓ |
| faceplanting | ✓ | ✓ | ✓ |
| eating chips | ✓ | ✓ | ✓ |
| playing harp | ✓ | ✓ | ✓ |
| spinning poi | ✓ | ✓ | ✓ |
| front raises | ✓ | ✓ | ✓ |
| reading book | ✓ | ✓ | ✓ |
| shaking head | ✓ | ✓ | ✓ |
| snowboarding | ✓ | ✓ | ✓ |
| scuba diving | ✓ | ✓ | ✓ |
| bending back | ✓ | ✓ | ✓ |
| drop kicking | ✓ | ✓ | ✓ |
| using segway | ✓ | ✓ | ✓ |
| ice climbing | ✓ | ✓ | ✓ |
| tossing coin | ✓ | ✓ | ✓ |
| cheerleading | ✓ | ✓ | ✓ |
| blowing nose | ✓ | ✓ | ✓ |
| pushing cart | ✓ | ✓ | ✓ |
| water skiing | ✓ | ✓ | ✓ |
| making pizza | ✓ | ✓ | ✓ |
| punching bag | ✓ | ✓ | ✓ |
| feeding fish | ✓ | ✓ | ✓ |
| riding camel | ✓ | ✓ | ✓ |
| shaving head | ✓ | ✓ | ✓ |
| throwing axe | ✓ | ✓ | ✓ |
| grooming dog | ✓ | ✓ | ✓ |
| curling hair | ✓ | ✓ | ✓ |
| air drumming | ✓ | ✓ | ✓ |
| training dog | ✓ | ✓ | ✓ |
| disc golfing | ✓ | ✓ | ✓ |
| hula hooping | ✓ | ✓ | ✓ |
| washing hair | ✓ | ✓ | ✓ |
| cartwheeling | ✓ | ✓ | ✓ |
| changing oil | ✓ | ✓ | ✓ |
| hammer throw | ✓ | ✓ | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| washing feet | ✓ | ✓ | ✓ |
| diving cliff | ✓ | ✓ | ✓ |
| golf putting | ✓ | ✓ | ✓ |
| motorcycling | ✓ | ✓ | ✓ |
| breakdancing | ✓ | ✓ | ✓ |
| drinking beer | ✓ | × | × |
| swinging legs | ✓ | × | × |
| bull fighting | × | ✓ | × |
| tossing salad | ✓ | × | ✓ |
| playing cards | ✓ | × | ✓ |
| slicing onion | × | × | ✓ |
| stacking dice | × | × | ✓ |
| helmet diving | × | × | ✓ |
| dealing cards | × | × | ✓ |
| treating wood | × | × | ✓ |
| eating nachos | × | × | ✓ |
| being excited | × | × | ✓ |
| vacuuming car | × | × | ✓ |
| petting horse | × | × | ✓ |
| stacking cups | × | × | ✓ |
| poaching eggs | × | × | ✓ |
| yarn spinning | × | ✓ | ✓ |
| card stacking | × | ✓ | ✓ |
| rope pushdown | × | ✓ | ✓ |
| smelling feet | × | ✓ | ✓ |
| card throwing | × | ✓ | ✓ |
| playing darts | × | ✓ | ✓ |
| chopping meat | × | ✓ | ✓ |
| making cheese | × | ✓ | ✓ |
| crossing eyes | × | ✓ | ✓ |
| cracking back | × | ✓ | ✓ |
| building lego | × | ✓ | ✓ |
| using inhaler | × | ✓ | ✓ |
| jumping jacks | × | ✓ | ✓ |
| using puppets | × | ✓ | ✓ |
| sucking lolly | × | ✓ | ✓ |
| cutting apple | × | ✓ | ✓ |
| lighting fire | × | ✓ | ✓ |
| surfing water | ✓ | ✓ | ✓ |
| playing organ | ✓ | ✓ | ✓ |
| hoverboarding | ✓ | ✓ | ✓ |
| feeding birds | ✓ | ✓ | ✓ |
| blowing glass | ✓ | ✓ | ✓ |
| building shed | ✓ | ✓ | ✓ |
| setting table | ✓ | ✓ | ✓ |
| doing laundry | ✓ | ✓ | ✓ |
| braiding hair | ✓ | ✓ | ✓ |
| mopping floor | ✓ | ✓ | ✓ |
| tying bow tie | ✓ | ✓ | ✓ |
| cutting nails | ✓ | ✓ | ✓ |
| skiing slalom | ✓ | ✓ | ✓ |
| making a cake | ✓ | ✓ | ✓ |
| chopping wood | ✓ | ✓ | ✓ |
| somersaulting | ✓ | ✓ | ✓ |
| riding a bike | ✓ | ✓ | ✓ |
| surfing crowd | ✓ | ✓ | ✓ |
| holding snake | ✓ | ✓ | ✓ |
| water sliding | ✓ | ✓ | ✓ |
| playing cello | ✓ | ✓ | ✓ |
| throwing ball | ✓ | ✓ | ✓ |
| eating hotdog | ✓ | ✓ | ✓ |
| robot dancing | ✓ | ✓ | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| ripping paper | ✓ | ✓ | ✓ |
| crawling baby | ✓ | ✓ | ✓ |
| cleaning pool | ✓ | ✓ | ✓ |
| brushing hair | ✓ | ✓ | ✓ |
| sanding floor | ✓ | ✓ | ✓ |
| belly dancing | ✓ | ✓ | ✓ |
| feeding goats | ✓ | ✓ | ✓ |
| shaking hands | ✓ | ✓ | ✓ |
| swing dancing | ✓ | ✓ | ✓ |
| carrying baby | ✓ | ✓ | ✓ |
| bending metal | ✓ | ✓ | ✓ |
| playing poker | ✓ | ✓ | ✓ |
| grinding meat | ✓ | ✓ | ✓ |
| shining shoes | ✓ | ✓ | ✓ |
| folding paper | ✓ | ✓ | ✓ |
| blasting sand | ✓ | ✓ | ✓ |
| arm wrestling | ✓ | ✓ | ✓ |
| rock climbing | ✓ | ✓ | ✓ |
| catching fish | ✓ | ✓ | ✓ |
| playing drums | ✓ | ✓ | ✓ |
| cracking neck | ✓ | ✓ | ✓ |
| tying necktie | ✓ | ✓ | ✓ |
| juggling fire | ✓ | ✓ | ✓ |
| golf chipping | ✓ | ✓ | ✓ |
| javelin throw | ✓ | ✓ | ✓ |
| skateboarding | ✓ | ✓ | ✓ |
| laying bricks | ✓ | ✓ | ✓ |
| playing piano | ✓ | ✓ | ✓ |
| playing flute | ✓ | ✓ | ✓ |
| salsa dancing | ✓ | ✓ | ✓ |
| eating burger | ✓ | ✓ | ✓ |
| skipping rope | ✓ | ✓ | ✓ |
| climbing tree | ✓ | ✓ | ✓ |
| washing hands | ✓ | ✓ | ✓ |
| playing chess | ✓ | ✓ | ✓ |
| tango dancing | ✓ | ✓ | ✓ |
| using computer | ✓ | × | × |
| cleaning floor | ✓ | × | × |
| exercising arm | ✓ | × | ✓ |
| baby waking up | ✓ | × | ✓ |
| waxing armpits | × | × | ✓ |
| mixing colours | × | × | ✓ |
| carving marble | × | × | ✓ |
| peeling banana | × | × | ✓ |
| breaking glass | × | × | ✓ |
| laying decking | × | × | ✓ |
| brushing floor | × | × | ✓ |
| herding cattle | × | × | ✓ |
| blending fruit | × | × | ✓ |
| seasoning food | × | × | ✓ |
| checking watch | × | × | ✓ |
| massaging neck | × | ✓ | ✓ |
| leatherworking | × | ✓ | ✓ |
| acting in play | × | ✓ | ✓ |
| chiseling wood | × | ✓ | ✓ |
| square dancing | × | ✓ | ✓ |
| sausage making | × | ✓ | ✓ |
| using a wrench | × | ✓ | ✓ |
| weaving fabric | × | ✓ | ✓ |
| breathing fire | × | ✓ | ✓ |
| rolling pastry | × | ✓ | ✓ |
| cutting orange | × | ✓ | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| needle felting | × | ✓ | ✓ |
| skipping stone | × | ✓ | ✓ |
| scrubbing face | × | ✓ | ✓ |
| flint knapping | × | ✓ | ✓ |
| shuffling feet | × | ✓ | ✓ |
| throwing knife | × | ✓ | ✓ |
| fixing bicycle | × | ✓ | ✓ |
| making bubbles | × | ✓ | ✓ |
| counting money | ✓ | ✓ | ✓ |
| applying cream | ✓ | ✓ | ✓ |
| blowing leaves | ✓ | ✓ | ✓ |
| shoveling snow | ✓ | ✓ | ✓ |
| brush painting | ✓ | ✓ | ✓ |
| making the bed | ✓ | ✓ | ✓ |
| playing tennis | ✓ | ✓ | ✓ |
| playing violin | ✓ | ✓ | ✓ |
| tapping guitar | ✓ | ✓ | ✓ |
| picking apples | ✓ | ✓ | ✓ |
| doing aerobics | ✓ | ✓ | ✓ |
| drinking shots | ✓ | ✓ | ✓ |
| bungee jumping | ✓ | ✓ | ✓ |
| shearing sheep | ✓ | ✓ | ✓ |
| juggling balls | ✓ | ✓ | ✓ |
| stretching arm | ✓ | ✓ | ✓ |
| news anchoring | ✓ | ✓ | ✓ |
| smoking hookah | ✓ | ✓ | ✓ |
| massaging back | ✓ | ✓ | ✓ |
| weaving basket | ✓ | ✓ | ✓ |
| making snowman | ✓ | ✓ | ✓ |
| checking tires | ✓ | ✓ | ✓ |
| planting trees | ✓ | ✓ | ✓ |
| spray painting | ✓ | ✓ | ✓ |
| stretching leg | ✓ | ✓ | ✓ |
| clean and jerk | ✓ | ✓ | ✓ |
| peeling apples | ✓ | ✓ | ✓ |
| dancing ballet | ✓ | ✓ | ✓ |
| making jewelry | ✓ | ✓ | ✓ |
| grooming horse | ✓ | ✓ | ✓ |
| playing guitar | ✓ | ✓ | ✓ |
| sword fighting | ✓ | ✓ | ✓ |
| washing dishes | ✓ | ✓ | ✓ |
| roller skating | ✓ | ✓ | ✓ |
| massaging feet | ✓ | ✓ | ✓ |
| cleaning shoes | ✓ | ✓ | ✓ |
| bench pressing | ✓ | ✓ | ✓ |
| riding scooter | ✓ | ✓ | ✓ |
| sweeping floor | ✓ | ✓ | ✓ |
| brushing teeth | ✓ | ✓ | ✓ |
| trimming trees | ✓ | ✓ | ✓ |
| baking cookies | ✓ | ✓ | ✓ |
| massaging legs | ✓ | ✓ | ✓ |
| crossing river | ✓ | ✓ | ✓ |
| eating carrots | ✓ | ✓ | ✓ |
| taking a shower | ✓ | × | × |
| cooking chicken | ✓ | × | ✓ |
| shredding paper | ✓ | × | ✓ |
| metal detecting | × | × | ✓ |
| lighting candle | × | × | ✓ |
| using megaphone | × | × | ✓ |
| playing piccolo | × | × | ✓ |
| entering church | × | × | ✓ |
| playing mahjong | × | × | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| flipping bottle | × | × | ✓ |
| splashing water | × | × | ✓ |
| carrying weight | × | × | ✓ |
| spinning plates | × | × | ✓ |
| fencing (sport) | × | ✓ | ✓ |
| curling (sport) | × | ✓ | ✓ |
| separating eggs | × | ✓ | ✓ |
| playing ocarina | × | ✓ | ✓ |
| playing netball | × | ✓ | ✓ |
| polishing metal | × | ✓ | ✓ |
| jumping bicycle | × | ✓ | ✓ |
| trimming shrubs | × | ✓ | ✓ |
| playing marbles | × | ✓ | ✓ |
| blowdrying hair | × | ✓ | ✓ |
| dyeing eyebrows | × | ✓ | ✓ |
| laying concrete | × | ✓ | ✓ |
| playing pinball | × | ✓ | ✓ |
| dumpster diving | × | ✓ | ✓ |
| putting on sari | × | ✓ | ✓ |
| playing maracas | × | ✓ | ✓ |
| delivering mail | × | ✓ | ✓ |
| preparing salad | × | ✓ | ✓ |
| vacuuming floor | × | ✓ | ✓ |
| chiseling stone | × | ✓ | ✓ |
| breaking boards | × | ✓ | ✓ |
| climbing ladder | ✓ | ✓ | ✓ |
| hurling (sport) | ✓ | ✓ | ✓ |
| throwing discus | ✓ | ✓ | ✓ |
| recording music | ✓ | ✓ | ✓ |
| playing trumpet | ✓ | ✓ | ✓ |
| sled dog racing | ✓ | ✓ | ✓ |
| stomping grapes | ✓ | ✓ | ✓ |
| carving pumpkin | ✓ | ✓ | ✓ |
| unloading truck | ✓ | ✓ | ✓ |
| watering plants | ✓ | ✓ | ✓ |
| playing ukulele | ✓ | ✓ | ✓ |
| cleaning toilet | ✓ | ✓ | ✓ |
| folding napkins | ✓ | ✓ | ✓ |
| playing cymbals | ✓ | ✓ | ✓ |
| riding unicycle | ✓ | ✓ | ✓ |
| playing cricket | ✓ | ✓ | ✓ |
| climbing a rope | ✓ | ✓ | ✓ |
| scrambling eggs | ✓ | ✓ | ✓ |
| opening present | ✓ | ✓ | ✓ |
| folding clothes | ✓ | ✓ | ✓ |
| waiting in line | ✓ | ✓ | ✓ |
| finger snapping | ✓ | ✓ | ✓ |
| riding elephant | ✓ | ✓ | ✓ |
| waxing eyebrows | ✓ | ✓ | ✓ |
| shuffling cards | ✓ | ✓ | ✓ |
| walking the dog | ✓ | ✓ | ✓ |
| driving tractor | ✓ | ✓ | ✓ |
| strumming guitar | ✓ | × | × |
| filling eyebrows | ✓ | × | ✓ |
| playing rounders | × | × | ✓ |
| squeezing orange | × | × | ✓ |
| making latte art | × | × | ✓ |
| opening coconuts | × | × | ✓ |
| playing checkers | × | × | ✓ |
| sword swallowing | × | ✓ | ✓ |
| playing dominoes | × | ✓ | ✓ |
| putting on shoes | × | ✓ | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| tagging graffiti | × | ✓ | ✓ |
| raising eyebrows | × | ✓ | ✓ |
| threading needle | × | ✓ | ✓ |
| popping balloons | × | ✓ | ✓ |
| cooking scallops | × | ✓ | ✓ |
| backflip (human) | × | ✓ | ✓ |
| falling off bike | × | ✓ | ✓ |
| playing scrabble | × | ✓ | ✓ |
| visiting the zoo | × | ✓ | ✓ |
| mosh pit dancing | × | ✓ | ✓ |
| shucking oysters | × | ✓ | ✓ |
| looking at phone | × | ✓ | ✓ |
| throwing tantrum | × | ✓ | ✓ |
| tying shoe laces | × | ✓ | ✓ |
| dancing macarena | ✓ | ✓ | ✓ |
| playing bagpipes | ✓ | ✓ | ✓ |
| eating ice cream | ✓ | ✓ | ✓ |
| playing monopoly | ✓ | ✓ | ✓ |
| flipping pancake | ✓ | ✓ | ✓ |
| getting a tattoo | ✓ | ✓ | ✓ |
| building cabinet | ✓ | ✓ | ✓ |
| playing clarinet | ✓ | ✓ | ✓ |
| eating spaghetti | ✓ | ✓ | ✓ |
| drumming fingers | ✓ | ✓ | ✓ |
| eating doughnuts | ✓ | ✓ | ✓ |
| playing trombone | ✓ | ✓ | ✓ |
| moving furniture | ✓ | ✓ | ✓ |
| contact juggling | ✓ | ✓ | ✓ |
| playing recorder | ✓ | ✓ | ✓ |
| wrapping present | ✓ | ✓ | ✓ |
| hitting baseball | ✓ | ✓ | ✓ |
| playing kickball | ✓ | ✓ | ✓ |
| cleaning gutters | ✓ | ✓ | ✓ |
| cleaning windows | ✓ | ✓ | ✓ |
| peeling potatoes | ✓ | ✓ | ✓ |
| playing keyboard | ✓ | ✓ | ✓ |
| looking in mirror | × | × | ✓ |
| walking on stilts | × | × | ✓ |
| playing billiards | × | × | ✓ |
| curling eyelashes | × | × | ✓ |
| playing beer pong | × | ✓ | ✓ |
| directing traffic | × | ✓ | ✓ |
| twiddling fingers | × | ✓ | ✓ |
| marriage proposal | × | ✓ | ✓ |
| making horseshoes | × | ✓ | ✓ |
| cracking knuckles | × | ✓ | ✓ |
| adjusting glasses | × | ✓ | ✓ |
| tightrope walking | × | ✓ | ✓ |
| playing laser tag | × | ✓ | ✓ |
| installing carpet | × | ✓ | ✓ |
| lawn mower racing | × | ✓ | ✓ |
| standing on hands | × | ✓ | ✓ |
| playing pan pipes | × | ✓ | ✓ |
| playing ping pong | × | ✓ | ✓ |
| falling off chair | × | ✓ | ✓ |
| playing blackjack | × | ✓ | ✓ |
| mushroom foraging | × | ✓ | ✓ |
| playing harmonica | ✓ | ✓ | ✓ |
| cutting pineapple | ✓ | ✓ | ✓ |
| sharpening knives | ✓ | ✓ | ✓ |
| playing badminton | ✓ | ✓ | ✓ |
| getting a haircut | ✓ | ✓ | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| playing saxophone | ✓ | ✓ | ✓ |
| making a sandwich | ✓ | ✓ | ✓ |
| playing xylophone | ✓ | ✓ | ✓ |
| reading newspaper | ✓ | ✓ | ✓ |
| jumping into pool | ✓ | ✓ | ✓ |
| arranging flowers | ✓ | ✓ | ✓ |
| frying vegetables | ✓ | ✓ | ✓ |
| sharpening pencil | ✓ | ✓ | ✓ |
| playing accordion | ✓ | ✓ | ✓ |
| eating watermelon | ✓ | ✓ | ✓ |
| jumpstyle dancing | ✓ | ✓ | ✓ |
| playing paintball | ✓ | ✓ | ✓ |
| playing nose flute | × | × | ✓ |
| getting a piercing | × | ✓ | ✓ |
| wading through mud | × | ✓ | ✓ |
| wood burning (art) | × | ✓ | ✓ |
| using circular saw | × | ✓ | ✓ |
| assembling bicycle | × | ✓ | ✓ |
| blowing bubble gum | × | ✓ | ✓ |
| repairing puncture | × | ✓ | ✓ |
| poking bellybutton | × | ✓ | ✓ |
| putting on mascara | × | ✓ | ✓ |
| throwing snowballs | × | ✓ | ✓ |
| riding snow blower | × | ✓ | ✓ |
| shining flashlight | × | ✓ | ✓ |
| using a microscope | × | ✓ | ✓ |
| kicking field goal | ✓ | ✓ | ✓ |
| playing ice hockey | ✓ | ✓ | ✓ |
| playing controller | ✓ | ✓ | ✓ |
| cutting watermelon | ✓ | ✓ | ✓ |
| dancing charleston | ✓ | ✓ | ✓ |
| hugging (not baby) | ✓ | ✓ | ✓ |
| springboard diving | ✓ | ✓ | ✓ |
| playing basketball | ✓ | ✓ | ✓ |
| dunking basketball | ✓ | ✓ | ✓ |
| playing volleyball | ✓ | ✓ | ✓ |
| playing didgeridoo | ✓ | ✓ | ✓ |
| inflating balloons | ✓ | ✓ | ✓ |
| extinguishing fire | ✓ | ✓ | ✓ |
| pushing wheelchair | ✓ | ✓ | ✓ |
| chopping vegetables | × | ✓ | × |
| pulling rope (game) | × | × | ✓ |
| picking blueberries | × | × | ✓ |
| playing road hockey | × | × | ✓ |
| uncorking champagne | × | × | ✓ |
| polishing furniture | × | × | ✓ |
| playing with trains | × | ✓ | ✓ |
| pushing wheelbarrow | × | ✓ | ✓ |
| shaping bread dough | × | ✓ | ✓ |
| alligator wrestling | × | ✓ | ✓ |
| building sandcastle | × | ✓ | ✓ |
| doing jigsaw puzzle | × | ✓ | ✓ |
| opening wine bottle | × | ✓ | ✓ |
| putting on eyeliner | × | ✓ | ✓ |
| passing soccer ball | × | ✓ | ✓ |
| playing rubiks cube | × | ✓ | ✓ |
| using a power drill | × | ✓ | ✓ |
| putting on lipstick | × | ✓ | ✓ |
| kicking soccer ball | ✓ | ✓ | ✓ |
| cooking on campfire | ✓ | ✓ | ✓ |
| gymnastics tumbling | ✓ | ✓ | ✓ |
| clay pottery making | ✓ | ✓ | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| swimming backstroke | ✓ | ✓ | ✓ |
| skiing crosscountry | ✓ | ✓ | ✓ |
| answering questions | ✓ | ✓ | ✓ |
| assembling computer | ✓ | ✓ | ✓ |
| sticking tongue out | ✓ | ✓ | ✓ |
| biking through snow | ✓ | ✓ | ✓ |
| playing bass guitar | ✓ | ✓ | ✓ |
| shooting basketball | ✓ | ✓ | ✓ |
| blowing out candles | ✓ | ✓ | ✓ |
| rock scissors paper | ✓ | ✓ | ✓ |
| riding mountain bike | ✓ | × | × |
| playing slot machine | × | × | ✓ |
| swimming with sharks | × | × | ✓ |
| playing shuffleboard | × | × | ✓ |
| using a paint roller | × | ✓ | ✓ |
| home roasting coffee | × | ✓ | ✓ |
| battle rope training | × | ✓ | ✓ |
| changing gear in car | × | ✓ | ✓ |
| swimming front crawl | × | ✓ | ✓ |
| wading through water | × | ✓ | ✓ |
| walking through snow | × | ✓ | ✓ |
| attending conference | × | ✓ | ✓ |
| casting fishing line | × | ✓ | ✓ |
| opening refrigerator | × | ✓ | ✓ |
| hand washing clothes | × | ✓ | ✓ |
| playing field hockey | × | ✓ | ✓ |
| juggling soccer ball | ✓ | ✓ | ✓ |
| dribbling basketball | ✓ | ✓ | ✓ |
| country line dancing | ✓ | ✓ | ✓ |
| canoeing or kayaking | ✓ | ✓ | ✓ |
| running on treadmill | ✓ | ✓ | ✓ |
| walking with crutches | × | × | ✓ |
| pulling espresso shot | × | × | ✓ |
| letting go of balloon | × | × | ✓ |
| being in zero gravity | × | × | ✓ |
| roasting marshmallows | × | ✓ | ✓ |
| using bagging machine | × | ✓ | ✓ |
| talking on cell phone | × | ✓ | ✓ |
| putting on foundation | × | ✓ | ✓ |
| using a sledge hammer | × | ✓ | ✓ |
| swinging baseball bat | × | ✓ | ✓ |
| making balloon shapes | × | ✓ | ✓ |
| dancing gangnam style | ✓ | ✓ | ✓ |
| cooking sausages | ✓ | ✓ | ✓ |
| snatch weight lifting | ✓ | ✓ | ✓ |
| swinging on something | ✓ | ✓ | ✓ |
| swimming with dolphins | × | × | ✓ |
| shooting off fireworks | × | × | ✓ |
| throwing water balloon | × | ✓ | ✓ |
| historical reenactment | × | ✓ | ✓ |
| swimming breast stroke | ✓ | ✓ | ✓ |
| bouncing on trampoline | ✓ | ✓ | ✓ |
| shooting goal (soccer) | ✓ | ✓ | ✓ |
| riding mechanical bull | ✓ | ✓ | ✓ |
| making paper aeroplanes | × | ✓ | ✓ |
| using remote controller | ✓ | ✓ | ✓ |
| massaging person’s head | ✓ | ✓ | ✓ |
| gospel singing in church | × | ✓ | ✓ |
| punching person (boxing) | ✓ | ✓ | ✓ |
| petting animal (not cat) | ✓ | ✓ | ✓ |
| pretending to be a statue | × | × | ✓ |
| listening with headphones | × | × | ✓ |

| Label | K4 | K6 | K7 |
|---|---|---|---|
| putting wallpaper on wall | × | × | ✓ |
| playing american football | × | × | ✓ |
| carving wood with a knife | × | × | ✓ |
| bouncing on bouncy castle | × | ✓ | ✓ |
| putting in contact lenses | × | ✓ | ✓ |
| archaeological excavation | × | ✓ | ✓ |
| swimming butterfly stroke | ✓ | ✓ | ✓ |
| tying knot (not on a tie) | ✓ | ✓ | ✓ |
| person collecting garbage | ✓ | ✓ | ✓ |
| trimming or shaving beard | ✓ | ✓ | ✓ |
| giving or receiving award | ✓ | ✓ | ✓ |
| breading or breadcrumbing | ✓ | ✓ | ✓ |
| opening bottle (not wine) | ✓ | ✓ | ✓ |
| sign language interpreting | ✓ | ✓ | ✓ |
| mountain climber (exercise) | × | ✓ | ✓ |
| playing hand clapping games | × | ✓ | ✓ |
| presenting weather forecast | ✓ | ✓ | ✓ |
| bouncing ball (not juggling) | × | × | ✓ |
| changing wheel (not on bike) | ✓ | ✓ | ✓ |
| catching or throwing frisbee | ✓ | ✓ | ✓ |
| riding or walking with horse | ✓ | ✓ | ✓ |
| catching or throwing softball | ✓ | ✓ | ✓ |
| playing squash or racquetball | ✓ | ✓ | ✓ |
| decorating the christmas tree | ✓ | ✓ | ✓ |
| catching or throwing baseball | ✓ | ✓ | ✓ |
| exercising with an exercise ball | ✓ | ✓ | ✓ |
| passing American football (in game) | ✓ | ✓ | ✓ |
| passing American football (not in game) | ✓ | ✓ | ✓ |