

C APPENDIX C

This table presents the expanded concepts associated with this image. The actual intent for selecting this image was: "I want to eat healthy food to lose weight." The caption used by the system to expand its concepts is as follows:

"The image is a four-panel collage showing the process of making a juice or smoothie. 1. The top-left panel shows a selection of fruits and vegetables, including apples, carrots, and citrus fruits, arranged on a cutting board. 2. The top-right panel features a bowl containing sliced apples, carrots, and other fruits, possibly ready to be blended or juiced. 3. The bottom-left panel displays a close-up of a sliced piece of fruit, likely peach or citrus. 4. The bottom-right panel presents a glass filled with an orange-colored juice or smoothie, with a straw for drinking. The sequence suggests the preparation and creation of a fresh fruit and vegetable juice."



Table 7: Sample Expanded Concepts

Method	Expanded Concepts
GPT	<p>'locations': ['kitchen', 'garden', 'farmers market', 'grocery store', 'outdoor picnic', 'kitchen island', 'home pantry', 'juice bar', 'farm', 'orchard'],</p> <p>'occasions': ['breakfast', 'snack time', 'summer picnic', 'family gathering', 'health retreat', 'juice cleanse', 'birthday party', 'brunch', 'cooking class', 'exercise session'],</p> <p>'activities': ['slicing', 'blending', 'juicing', 'pouring', 'arranging', 'peeling', 'drinking', 'washing', 'chopping', 'mixing'],</p> <p>'sentences': ['a person is slicing apples and carrots.', 'a person is blending fruits for a smoothie.', 'a person is juicing citrus fruits.', 'a person is pouring juice into a glass.', 'a person is arranging fruits on a cutting board.', 'a person is peeling oranges.', 'a person is drinking a freshly made smoothie.', 'a person is washing fruits and vegetables.', 'a person is chopping carrots for juicing.', 'a person is mixing different fruit juices together.'],</p> <p>'intent': ['I want to make fresh juice.', 'I enjoy preparing healthy drinks.', 'Let's have a refreshing smoothie.', 'I am interested in fruits and vegetables.', 'I want to try new fruit combinations.'],</p> <p>'entities': ['apples', 'carrots', 'citrus fruits', 'cutting board', 'blender', 'bowl', 'glass', 'straw', 'knife', 'juicer'],</p> <p>'sameEnt': ['grapes', 'pears', 'mangoes', 'spinach', 'kiwifruit', 'celery', 'lemons', 'bananas', 'strawberries', 'pineapples'],</p> <p>'lowEnt': ['sliced apples', 'orange juice', 'sliced carrots', 'lemon slices', 'lime juice', 'grated carrots', 'peeled oranges', 'cubed apples', 'orange zest', 'citrus peels'],</p> <p>'highEnt': ['fruits and vegetables', 'kitchen utensils', 'appliances', 'containers', 'glassware', 'drinks', 'cooking ingredients', 'produce', 'kitchenware', 'beverages'],</p> <p>'roles': ['juice maker', 'fruit lover', 'health enthusiast', 'chef', 'cook', 'vegetarian', 'vegan', 'farmer', 'nutritionist', 'friend'],</p>

ConceptNet	<p>'fruit': ['a tree', 'a market', 'a good source of vitamins', 'produce', 'orange', 'a better snack than candy', 'watermelon', 'raspberry', 'eating', 'good for health', 'good for you', 'a mango', 'grape', 'plums', 'lemon', 'peach', 'apple', 'lime'], 'vegetable': ['a bean', 'a cucumber', 'a radish', 'pea', 'a cauliflower', 'cucumber', 'corn', 'celery', 'plant'], 'orange-colored': [], 'close-up': [], 'four-panel': [], 'citru': [], 'bottom-left': [], 'board': ['advisory board', 'wooden', 'surface', 'lumber', 'chalk', 'piece', 'flat', 'plank', 'a board', 'game', 'prancha', 'writing', 'checkerboard', 'asua', 'build', 'wood', 'games', 'draft board'], 'glas': ['glasite'], 'smoothie': ['charmer', 'smoothy', 'beverage', 'pemikat'], 'top-left': [], 'bowl': ['nest', 'salad bowl', 'a spoon', 'cricket', 'the cupboard', 'hold sugar', 'soup', 'hold peanuts', 'plate', 'a bowl', 'hold spice', 'hold mush'], 'creation': ['creator', 'piece', 'creating by removal'], 'sequence': ['rotation', 'rate', 'movie', 'fila', 'sequela'], 'drinking': ['choking', 'water', 'quenching thirst', 'urinate', 'wine', 'a glass of milk', 'enjoying the company of your friends', 'stupidity', 'buying a beer', 'having food', 'glass', 'a glass', 'a saloon', 'swallowing', 'bar', 'a beverage'], 'collage': ['montaj', 'kolaj', 'paste-up', 'ikon', 'montaxe', 'montage', 'photomontage'], 'straw': ['slamka', 'nest', 'drinking straw', 'colmo', 'tube', 'olki', 'canudo'], 'sliced': ['shredded', 'presliced', 'bread', 'nonsliced', 'carrots', 'slice', 'liver and onions', 'best thing since sliced bread'], 'piece': ['a whole', 'part', 'board', 'song', 'clock', 'spindle', 'sebahagian', 'slice', 'bit', 'figura', 'page', 'stick', 'portion'], 'likely': ['promising', 'credible', 'possible'], 'fresh': ['undecomposed', 'recente', 'new', 'fresco', 'fresh-cut', 'wet'], 'carrot': ['gulrot', 'cenoura', 'mrkva', 'karot', 'root'], 'juice': ['v-8 juice', 'wine', 'lime juice', 'the refrigerator', 'current', 'suco', 'energia', 'suc', 'succus', 'urin', 'succo'], 'peach': ['a pit', 'pesco', 'edible fruit', 'pexego', 'a peach', 'smasher'], 'selection': ['odabir', 'asortiman', 'survival'], 'preparation': ['warm up', 'taking final exams', 'turnaround', 'planning', 'taking an exam', 'persiapan'], 'panel': ['body', 'element', 'gore', 'paneeli'], 'top-right': [], 'bottom-right': [], 'image': ['impression', 'irudi', 'imagen', 'iduri', 'persona', 'effigy', 'imago', 'reflection', 'picture', 'auditory image'], 'ready': ['siap-sedia', 'prepare', 'set', 'willing', 'fix', 'go', 'at the ready', 'prepared'], 'proses': ['postup'], 'apple': ['red fruit', 'pie', 'tree', 'core', 'red', 'a grocery store', 'round', 'apple tree', 'eating', 'an apple', 'eve', 'adam', 'green', 'mac', 'fall from a tree', 'computer']</p>
EAT	<p>'glas': [], 'piece': ['CAKE', 'BIT', 'MEAL', 'BREAD'], 'board': ['BLACK', 'LODGING', 'PLANK', 'ROOM', 'DIRECTOR', 'SHIP'], 'panel': ['GAME', 'WOOD', 'JUDGES', 'BEATER', 'WALL'], 'smoothie': [], 'close-up': [], 'likely': ['PROBABLE', 'UNLIKELY', 'POSSIBLE', 'LAD', 'TO'], 'top-left': [], 'four-panel': [], 'proses': [], 'image': ['PICTURE', 'MIRROR', 'VISION', 'FACE', 'OBJECT'], 'orange-colored': [], 'citru': [], 'sliced': [], 'vegetable': ['CABBAGE', 'CARROT', 'POTATO', 'MARROW', 'MATTER', 'SOUP'], 'ready': ['STEADY', 'GO', 'PREPARED', 'NOW'], 'sequence': ['FOLLOW', 'SERIES', 'EVENTS', 'FOLLOWING', 'NEXT', 'EVENT'], 'bottom-right': [], 'bottom-left': [], 'selection': ['CHOICE', 'COMMITTEE', 'CHOCOLATE', 'CHOCOLATES', 'PICK', 'SWEETS', 'BOARD', 'CHOOSE'], 'juice': ['ORANGE', 'FRUIT', 'LEMON', 'APPLE', 'TOMATO'], 'bowl': ['CRICKET', 'SALAD', 'GREEN', 'PORRIDGE', 'SOUP', 'ALLEY', 'CHERRIES', 'DISH'], 'collage': [], 'fresh': ['AIR', 'FISH', 'NEW', 'CREAM', 'STALE', 'DAISY', 'FRESHER', 'FRUIT', 'MAN'], 'carrot': ['DONKEY', 'RABBIT', 'VEGETABLE', 'ORANGE', 'RED', 'TURNIP'], 'straw': ['HAT', 'HAY', 'LAST', 'BERRY', 'WIND'], 'top-right': [], 'drinking': ['BEER', 'WATER', 'EATING', 'BOOZE', 'GLASS'], 'creation': ['GOD', 'BEGINNING', 'MADE', 'WORLD', 'BIRTH', 'MAKE', 'DESTRUCTION', 'LIFE'], 'preparation': [], 'fruit': ['APPLE', 'JUICE', 'ORANGE', 'SALAD'], 'peach': ['FRUIT', 'MELBA', 'CREAM', 'PEAR', 'APPLE', 'TREE', 'JUICE'], 'apple': ['PIE', 'PEAR', 'ORANGE', 'TREE']</p>
ImageNet Synsets	<p>['firearm, piece, small-arm', 'piece', 'creation', 'fruit', 'vegetable, veggie, veg', 'bowl', 'apple', 'dining table, board', 'board', 'cannon', 'instrumentality, instrumentation', 'structure, construction', 'sheet, flat solid', 'fabric, cloth, material, textile', 'covering', 'padding, cushioning', 'commodity, trade good, good', 'excavation', 'decoration, ornament, ornamentation', 'plaything, toy', 'article', 'surface', 'edible fruit', 'Petri dish', 'fig', 'pineapple, ananas', 'banana', 'jackfruit, jak, jack', 'custard apple', 'pomegranate', 'berry', 'citrus, citrus fruit, citrus fruit', 'plate', 'rifle', 'autoloader, self-loader', 'pistol, handgun, side arm, shooting iron', 'piece of cloth, piece of material', 'product, production', 'acorn', 'hip, rose hip, rosehip', 'ear, spike, capitulum', 'edible fruit', 'seed', 'pome, false fruit', 'cucumber, cuke', 'artichoke, globe artichoke', 'cardoon', 'mushroom', 'solanaceous vegetable', 'root vegetable', 'cruciferous vegetable', 'squash', 'soup bowl', 'mixing bowl', 'eating apple, dessert apple', 'scoreboard']</p>