## **Square Dude Meets Reality**

## **Structures of the Mammalian Digestive Tract**:

The digestive system is comprised of a series of chambers separated by sphincters. Each section of the digestive has a particular function. On the diagram below, match the structures with their functions:

Anus Esophagus Gall bladder Large intestine	Liver Mouth Pancreas Rectum	Salivary glands Small intestine Stomach
The digestive tract:	5.	Accessory organs:
(a) Mechanical and chemical processing (chewing reduces size of food; saliva digests carbohydrates)		(h) Secrete enzymes that digest carbohydrates; supply lubricating mucus
(b) Transports food (c) Mechanical and chemical processing		(i) Secretes molecules required for
(d) Chemical processing and absorption (digestion of proteins, fats, carbohydrates; absorption of nutrients and water)		(j) Stores secretions from liver; empties
(e) Water absorption and feces formation	RUST	into small intestine (k)
(f) Holds feces  (g) Feces elimination	QUIT OF	Secretes enzymes and other materials into small intestine

This diagram is borrowed from our textbook, *Biological Science* by Freeman (Pearson/Benjamin Cummings Publishers).

## Meet Square Dude:

Due to their size/length, the organs of the digestive are crammed into our gut making it a little challenging to observe the inter-relationship of the different structures. To remedy this situation, Dr. John Cornell, a past member of the CSB/SJU Biology Department, created "Square Dude" (see diagram below). Square Dude is a schematic diagram of the digestive tract. Compare "The Dude" to the diagram above and then label each of the following structures on "The Dude."

- 1. anus
- 2. appendix
- 3. caecum
- 4. cavity, nasal
- 5. cavity, oral
- 6. epiglottis
- 7. esophagus
- 8. gall bladder
- 9. intestine, small
- 10. large intestine
- 11. liver

- 12. lung
- 13. mouth
- 14. palate, hard
- 15. palate, soft
- 16. pancreas
- 17. pharynx
- 18. rectum
- 19. salivary glands
- 20. sphincter, cardiac
- 21. sphincter, pyloric

- 22. sphincter, internal anal
- 23. sphincter, external anal
- 24. sphincter, ileo-caecal
- 25. sphincter, esophogeal
- 26. stomach
- 27. teeth
- 28. tongue
- 29. trachea

