

COCKROACHES

Use the following cockroaches species to answer questions 101 – 118

- | | | |
|---------------------------|-----------------------------|--------------------------|
| A. German cockroach | E. Oriental cockroach | I. American cockroach |
| B. Brown-banded cockroach | F. Pennsylvania woods roach | J. Smoky brown cockroach |
| C. Asian cockroach | G. Surinam cockroach | K. Australian cockroach |
| D. Woods cockroach | H. Cuban cockroach | |

101. A The most economically important urban pest species.
102. J This large cockroach is dark brown to dark black in color and can fly.
103. A/C This small cockroach has a pronotum with longitudinal black bars running lengthwise.
104. C This small cockroach resembles the German cockroach, except it can fly, it's attracted to lights and is primarily found around Tampa, Lakeland and St. Petersburg...but has been found throughout urban areas in south Georgia including Savannah, Valdosta, and Bainbridge up to Cordele.
105. I This large, reddish-brown cockroach has a pale brown or yellow border on its pronotum and is the largest of all common house-infesting cockroaches.
106. E This medium-size, dark brown or nearly black cockroach has wing pads, as a female, or reduced wings as a male.
107. B This small, light-brown cockroach has two lighter bands running from one side to another across the base of the wings and the abdomen.
108. K This large, reddish-brown cockroach has its front wings with a yellow streak at its base and a prominent dark spot in the center of its pronotum.
109. J This cockroach is commonly found in the attic of structures and flies.
110. I This large cockroach is commonly found in boiler rooms and around the manholes of sewers.
111. E This medium-size cockroach is commonly found in sewers, drains and in dark, damp basements. It is often associated with decaying organic matter.
112. A This small cockroach is found primarily around food and water in homes & restaurants.
113. J This large cockroach often glues its egg capsules (24 eggs in each egg capsule) to the outside of buildings.
114. A This cockroach carries its egg capsule about 27 days and drops it one day before hatching in a secluded crack & crevice or void.
115. B This cockroach has the smallest egg capsule and glues it to surfaces in clusters.
116. J This cockroach has young nymphs which have long antennae which are white at the tips.
117. A This cockroach has the greatest reproductive potential of the cockroaches commonly found to infest homes.
118. B This small cockroach is usually found throughout a home in cracks and crevices, not just in food and water areas.

TRUE or FALSE or FILL IN THE BLANK

119. False Cockroaches are mostly active during the day.
120. True Cockroaches which live in buildings feed on a wide variety of food.
121. True Cockroaches are capable of transmitting several disease organisms which cause diseases such as food poisoning, dysentery, and diarrhea.
122. True Adult Brown-Banded male cockroaches fly quite readily when disturbed.
123. False Cockroaches develop by complete metamorphosis.
124. The female cockroach produces an egg capsule called a ootheca.
125. Name five factors that make German cockroaches so successful.
 - Thigmotactic, carries egg capsule, high reproductive potential, develop resistance to pesticides, small size enables it to find many harborage areas, etc.

HYMENOPTERA (ants, bees, wasps, hornets, yellow jackets, hornetsails, etc.)

126. D Ants develop by:
A. no metamorphosis C. incomplete metamorphosis
B. gradual metamorphosis D. complete metamorphosis
126. D Ants have _____ antennae.
A. filiform (threadlike) C. pectinate (comb-like)
B. moniliform (bead-like) D. elbowed (shaped like an elbow)
127. B Ants have a thin waist known as a _____.
A. scape C. funicle
B. pedicel D. gaster
128. False True or False. Carpenter ants can digest cellulose.
129. A Ants have _____ mouthparts.
A. chewing C. piercing-sucking
B. siphoning D. rasping
130. _____ Foraging ants bring food and water back to the colony and pass it to other nest-tending members of the colony in a mouth-to-mouth process called _____.
131. True True or False. Carpenter ant galleries are clean and smooth, giving the wood almost a sandpapered appearance.
132. D This ant clears large areas of vegetation around its nest openings and gathers seeds, which it stores in burrows.
A. Acrobat ant C. Argentine ant
B. Carpenter ant D. Harvester ant
133. C Two ants that can be effectively controlled with baits without the use of insecticides are:
A. Carpenter and Thief ants C. Pharaoh and Fire ants
B. Carpenter and Acrobat ants D. Pharaoh and Leaf-cutter ants
134. _____ In order to eliminate an infestation of ants within a building, it is important to locate the colony/nest _____.
135. True True or False. Wasps and bees are generally considered beneficial insects.
136. False True or False. Most wasps feed their young pollen and nectar.
137. True True or False. About 1% of the individuals stung by wasps and bees are hypersensitive to their venom.
138. D Two solitary wasps are:
A. Yellow jackets and honey bees C. Paper wasps and bumble bees
B. Bald-faced hornets and fire ants D. Mud daubers and cicada killers
139. False True or False. Paper wasps reuse their nests each year.
140. True True or False. Yellow jackets usually nest in the ground, but also can nest in the walls of houses.
141. False True or False. Bumble bees, like carpenter bees, often excavate nests in wood.
142. True True or False. Carpenter ants can forage for more than 100 yards, the size of a football field.
143. False True or False. The frass of Carpenter ants is free of any foreign material except wood chips.
144. False True or False. All ants have only one size worker.
145. False True or False. All ants have more than one queen.
146. False True or False. All ants start a new colony by swarming.
147. True True or False. All ants are social insects.
148. True True or False. Most ants prefer carbohydrates rather than proteins and greases.
149. False True or False. Worker ants can digest both liquid and solid food in homes.
150. False True or False. Worker ants are sterile males.

HYMENOPTERA (ants, bees, wasps, hornets, yellow jackets, hornets, etc.)

Use the following species of ants as answers to questions 151 – 175

- | | | |
|------------------------|---------------------|----------------------|
| A. Acrobat ant | G. Field ant | N. Odorous house ant |
| B. Argentine ant | H. Fire ant | O. Pavement ant |
| C. Allegheny mound ant | I. Harvester ant | P. Pharaoh ant |
| D. Big-headed ant | J. Large yellow ant | Q. Thief ant |
| E. Carpenter ant | K. Leaf-cutter ant | R. White-footed ant |
| F. Crazy ant | M. Little black ant | |

151. D This 2-noded ant has a thorax with one pair of spines, minor workers are very small and major workers have an enlarged head.
152. P This very small, 2-noded ant has 12 segmented antennae, the last 3 segments of which form a club. Its body is yellowish to reddish in color.
153. H These polymorphic, 2-noded ants have a 2 segmented club on the end of their 10 segmented antennae. These ants build mounds and can sting.
154. Q This very small ant, yellow to dirty-brown in color, has a 2 segmented antennal club and has no spines on its thorax.
155. J This large 1-noded ant is reddish-yellow with small eyes. and when crushed, gives off a citronella-like odor.
156. O This 2-noded ant has parallel lines or ridges on its head and thorax.
157. B This small, dark-brown colored ant has 1 node and prefers sweets such as honeydew, sugars, syrup, fruit juices, etc.
158. F This small 1-noded ant has very long legs and first antennal segment in relation to its body size when compared with other ants.
159. I This large, 2-noded ant has long hairs which form a "brush" under its head.
160. E This large, 1-noded ant has the top of its thorax gently rounded and has a small circlet of hairs around its anus on the tip of its abdomen.
161. A This small, 2-noded ant has an abdomen that is shaped like a heart when viewed from above.
162. A This small 2-noded ant bends its abdomen over its head and thorax when disturbed.
163. G This medium-sized, 1-noded ant runs very fast and builds flat mounds (turned-up soil).
164. C This medium-sized, 1-noded ant builds dome shaped mounds.
165. K This polymorphic, 2-noded ant has three pairs of spines on its thorax and builds mounds.
166. F This small, dark, 1-noded ant is often seen running about aimlessly, not moving in discernable trails.
167. P This very small, 2-noded ant often buds when pesticides are sprayed on its trails.
168. N This small, 1 noded ant smells like rotten coconuts when it is crushed between fingers.
169. D This ant is the only dimorphic ant that you might see in Georgia and Florida.
170. I This 2-noded ant often gathers seeds and takes them back to its colony.
171. K This ant often is seen carrying parts of leaves and seeds and takes them back to its colony.
172. Q This very small 2-noded ant without any spines on its thorax prefers greasy foods such as cheese and meats.
173. A This 2-noded ant builds nests in the dead wood of trees.
174. R This very small, 1-noded ant has light-colored tarsi.
175. M This very small, 2-noded ant is jet black in color.

STORED FOOD PESTS

Use the following Stored Product Pests to answer questions 176 - 200

A. Angoumois grain moth
B. Bean weevil
C. Cadelle
D. Cigarette beetle
E. Confused flour beetle
F. Dark mealworm
G. Dried fruit beetle
H. Drugstore beetle

I. Flat grain beetle
J. Grain mite
K. Granary weevil
L. Indianmeal moth
M. Khapra beetle
N. Lesser grain borer
O. Mediterranean flour moth
P. Merchant grain beetle

Q. Psocid (book louse)
R. Red flour beetle
S. Rice weevil
T. Saw-toothed grain beetle
U. Spider beetle
V. Warehouse beetle
W. Yellow mealworm

176. S Probably the most destructive pest of stored grain.
177. A Probably the most destructive stored grain moth.
178. P This small grain beetle has 6 teeth on each side of its pronotum and can fly.
179. S This small grain beetle has a beak and 2 pale spots on each of its elytra.
180. D This small grain beetle has its head hidden under the pronotum and has smooth elytra.
181. N This small grain beetle has its head hidden under the pronotum and has elytra with a roughened surface (with holes or pits in it). It is an internal feeder.
182. T This small grain beetle has 6 teeth on each side of its pronotum and can't fly.
183. F This large grain beetle is a secondary feeder and is dull black in color as an adult.
184. W This large grain beetle is a secondary feeder and the larvae are "golden brown" in color and are often sold as fish bait. As an adult, it is shiny black in color.
185. H This small grain beetle has its head hidden under the pronotum and its elytra have parallel lines on them.
186. W This large grain beetle is a secondary feeder and is shiny black in color as an adult.
187. C This medium-sized beetle has a strong constriction (pinched waist) between its pronotum and its elytra.
188. L This stored grain moth has wings that are tan on the front (basal) third and reddish-brown with a coppery-luster on the outermost 2/3rd of the front wings and 3/4" in width.
189. E This small grain beetle has no beak, has its head visible from above, doesn't have any teeth on its pronotum and can't fly. It is found more in the northern US.
190. K This small grain beetle has a beak and can't fly. It is found more in the northern US.
191. A This stored grain moth has a narrow, finger-like extension of its rear wings (pointed) that are fringed with long hair. Its wingspan is 2/3" wide.
192. M This stored grain pest has been subject to federal quarantine in the past and is very destructive.
193. O This stored grain moth often raises the front of its body giving its wings a distinct downward slope with its abdomen protruding between its wings.
194. L This is the most common grain moth found in homes.
195. O This grain moth has grey front wings with wavy black lines running through them.
196. D The larva of this stored grain pest is "C" shaped, has rather numerous and long body hairs (setae) and gives it a "fuzzy" appearance.
197. Q This minute six-legged stored grain pest is a secondary feeder.
198. J This minute eight-legged stored grain pest is a secondary feeder.
199. U This small stored grain pest resembles a spider.
200. I This is probably the smallest of the stored grain beetles.

STORED FOOD PESTS

Use the following type of feeders to answer questions 201 – 223

A. Scavenger B. Internal Feeder C. External Feeder D. Secondary Feeder

- 201. B Angoumois grain moth
- 202. B Bean weevil
- 203. C Cadelle
- 204. C Cigarette beetle
- 205. A Confused flour beetle
- 206. D Dark mealworm
- 207. A Dried fruit beetle
- 208. C Drugstore beetle
- 209. A Flat grain beetle
- 210. D Grain mite
- 211. B Granary weevil
- 212. C Indianmeal moth
- 213. C Khapra beetle
- 214. B Lesser grain borer
- 215. A Mediterranean flour moth
- 216. A Merchant grain beetle
- 217. D Psocid
- 218. A Red flour beetle
- 219. B Rice weevil
- 220. A Saw-toothed grain beetle
- 221. D Spider beetle
- 222. C Warehouse beetle
- 223. D Yellow mealworm

Answer the following questions with either TRUE or FALSE

- 224. True Grain mites prefer moist grain.
- 225. True Indian meal moth adults, if disturbed, fly in irregular zig-zag patterns.
- 226. False Red flour beetles are found primarily in the northern states.
- 227. False Granary weevils are found primarily in southern states.
- 228. True Merchant grain beetles are found primarily in northern states.
- 229. True Rice weevils are found primarily in southern states.
- 230. False Confused flour beetles fly.
- 231. False Granary weevils fly.
- 232. True Red flour beetles fly.
- 233. True Rice weevils fly.
- 234. False Most stored grain moths fly are repelled by lights and fly in darker areas.
- 235. True Indian meal moth larvae spin white silken cocoons and pupate.
- 236. False Indian mealmoth larvae are white with a dark pronotum and dark thoracic spots.
- 237. False Angomouis grain moth larvae are a dirty white color with sometimes a greenish or pinkish tint.
- 238. True The Indianmeal moth larva leaves extensive webbing matted over the surface of food products on which it is feeding.
- 239. True The Khapra beetle and warehouse beetle larvae both have dense clumps of hair (with spear-shaped tips) at the end of their abdomen.
- 240. False Stored product pests are always found in kitchens or pantries, never in other areas.

ECTOPARASITES (fleas, ticks, bed bug, etc.)

Use the following pests to answer questions

- | | | | |
|----------------------|-------------------------|--------------------|---------------------------|
| A. Cat flea | E. American Dog tick | I. Chigger | M. Common bed bug |
| B. Dog flea | F. Brown Dog tick | J. Itch mite | N. Bat bug |
| C. Oriental Rat flea | G. Deer tick | K. House dust mite | O. Blood-sucking conenose |
| D. Sticktight flea | H. Rocky Mnt. wood tick | L. Grain mite | P. Head & body lice |

241. I This arachnid ectoparasite is the larva of the common harvest mite.
242. O This insect ectoparasite takes a blood meal around the lips of man at night and is capable of transmitting Chagas disease.
243. G This arachnid ectoparasite is known to vector Lyme disease.
244. C This insect ectoparasite is known to vector plague and murine typhus.
245. K This arachnid is known to be a common source of allergens.
246. A This is the most common flea that is found in homes.
247. D This is a flea that is known to attack poultry and birds.
248. L This is an ectoparasite that occasionally causes mild skin rash (grocers' itch), but can easily be remedied once the moisture source is eliminated.
249. M This ectoparasite feeds on the blood of man and can be associated with a foul odor.
250. J This ectoparasite may burrow under the skin of man and cause scabies.
251. E + H These two ticks are capable of causing Tick paralysis if it bites you.
252. G The bite of this ectoparasite often results in a "bulls-eye" pattern around the bite.
253. P This ectoparasite has sticky eggs which attach to the host.
254. K This arachnid feeds on skin scales and dander and is found in coastal states.
255. N This ectoparasite looks like the common bed bug, but does not get in homes in large #s.
256. A The larva of this ectoparasite is legless and feeds on the dry undigested blood of the adult of the same species.
257. M This ectoparasite takes a blood meal at night and often leaves blood stains and fecal smears on pillow cases and sheets of the bed. It is becoming more common in hotel and motels as well as in home in the past five to ten years.
258. I This ectoparasite has only three pairs of legs in the stage that takes a blood meal, although the adult form does have four pairs of legs.

Answer the following questions either "TRUE" (T) or "FALSE" (F)

259. False A vector is an animal that the ectoparasite lives on and takes a blood meal from.
260. False Cat fleas prefer hot (> 85 degrees F.) and dry (< 50% relative humidity) conditions.
261. True Keeping grassy or weedy areas mowed close to the ground and the use of DEET and Permethrin on clothes and DEET on the skin are good methods of preventing chigger and tick bites.
262. True Immature ticks must have a blood meal before molting to the next stage.
263. False Adult bed bugs must feed on the blood of vertebrates on almost a daily basis and they are not able to survive long periods without feeding.
264. False Fleas are nocturnal, taking a blood meal only at night.
265. False Bed bugs transmit several diseases to man (murine typhus and food poisoning).
266. True Common names for the bed bug are red coat, mahogany flat, and chinch.
267. False Adult male ticks swell to 1/2" long and 1/4" wide when they become engorged with blood.
268. False The larval stage of the flea is the most difficult stage to control.
269. True A female flea may lay from 200 to 400 eggs in her lifetime.
270. True A female bed bug may lay up to 500 eggs in her lifetime.

OCCASSIONAL INVADERS

Use the following pests to answer questions 271 – 294

A. Clover mite	G. Cave/camel cricket	M. Scorpion	S. Silverfish/firebrat
B. Millipede	H. Field cricket	N. Ground beetle	T. Springtails
C. Pillbug	I. Chinch bug	O. Lady beetle	U. Psocids
D. Sowbug	J. Earwig	P. House centipede	V. Dermestids
E. Snails & Slugs	K. Boxelder bug	Q. Black widow spider	W. Thrips
F. House cricket	L. Centipede	R. Brown recluse spider	

271. U This insect is commonly called the book louse and is associated with moisture areas and feeds on molds and fungi.
272. M This arthropod is nocturnal, and can deliver a painful sting with a stinger on its tail.
273. C + D This arthropod is associated with moisture and breathes by the means of gills.
274. A, K, O These arthropod pests overwinter in homes.
275. T This primitive insect often is found in moist areas inside homes and appears to be a flea.
276. E These mollusks are usually controlled with Mesurol and Metaldehyde baits.
277. W These tiny insects have wings and can fly and may occasionally cause an itching bite.
278. S These primitive insects have no wings and have three tail-like appendages at the rear of their abdomen.
279. B These arthropods feed on organic debris and may migrate in large numbers up hill.
280. P These arthropods are nocturnal predators that have one pair of long legs on each of the many segments.
281. V We have considerable difficulty in controlling these beetles (larder, hide, and black larder) in both homes and industrial establishments. They are common pests of hides.
282. R This spider bite rots the flesh and degrades tissue.
283. Q This spider bite is neurotoxic in nature, affecting the nervous system, causing immediate pain and contraction of muscles.
284. I This plant bug attacks Saint Augustine grass and has piercing-sucking mouthparts.
285. S This nocturnal insect feeds on a wide variety of foods and can run very swiftly.
286. J This insect has cerci at the end of its abdomen and some species can fly.
287. K This insect is about ½" long, has piercing-sucking mouthparts and is bright red or black with narrow reddish line on the back. They may stain curtains with their fecal spots and may produce a foul odor.
288. G This arthropod usually leaves dark stains near the wood adjacent to the foundation wall of the crawlspace and on the top of the exterior foundation walls in the crawlspace. They have very long antennae, no wings, and very long legs.
289. D This arthropod prefers moist areas and has two pairs of appendages at the end of the abdomen. It feeds on decaying vegetable matter.
290. B This arthropod has two pair of legs per body segment and has short antennae.
291. L This arthropod has one pair of legs per body segment and has long antennae.
292. A These small arthropods (the size of a pinhead) are orange or red in color and have 4 pairs of legs, the first pair are much longer than the other pairs.
293. H These crickets are darker in color, are attracted to lights and may get inside in large #s.
294. A These occasional invaders often have heavy migrations into homes in early summer and in fall.

Match, in questions 295 – 299, the correct CLASS of Arthropod listed on the right with the Arthropods

- | | | |
|---------------|----------------------|--------------|
| 295. <u>B</u> | Spiders, tick, mites | A. Hexapoda |
| 296. <u>C</u> | Pillbugs & sowbugs | B. Arachnida |
| 297. <u>E</u> | Centipedes | C. Crustacea |
| 298. <u>A</u> | Insects | D. Diplopoda |
| 299. <u>D</u> | Millipedes | E. Chilopoda |

FABRIC PESTS

Use the following pests to answer questions 241 – 256

- | | | |
|----------------------------|----------------------------|-------------------------|
| A. Black carpet beetle | E. Furniture carpet beetle | I. Varied carpet beetle |
| B. Casemaking clothes moth | F. Larder beetle | J. Webbing clothes moth |
| C. Common carpet beetle | G. Silverfish | |
| D. Crickets | H. Tapestry moth | |

300. A This is the most abundant, widespread carpet beetle that causes the greatest amount of damage to fabrics.
301. J This is the most commonly encountered clothes moth in the United States.
302. J This clothes moth has silvery-brown colored wings and its head has a tuft of light reddish setae (hairs) on top of it.
303. C This beetle is strikingly patterned with colored scales. It appears to have a red or orange line where its elytra meet in the middle of its back.
304. A This beetle is shiny black with brownish legs and about 1/8th to 3/16th inch in length.
305. F This beetle is dark brown with a pale yellow band across the front half of its elytra, having 6 darker spots on it. It infests hides.
306. A This fabric pest larva is shaped like a carrot with long, bushy tail bristles.
307. B This fabric pest larva spins a small silken cell, bag, or case around itself and carries it about while it feeds on fabric.
308. J This fabric pest larva spins feeding tunnels of silk.
309. I This fabric pest larva can be identified by its spear-shaped setae (haustisetae) which arise from the end of its abdomen in dense clumps.
310. B This fabric moth is the most common in the southern United States.
311. D + G These two pests are not considered fabric pests although they might damage fabrics.
- 312.. I This fabric pest beetle is strikingly patterned with colored scales, the colors of which are made up of oar-shaped scales.
313. E This fabric pest beetle is strikingly patterned with colored scales, the colors of which are made up of oval- shaped scales.
314. H The basal (nearest the body) third of the front wing of this moth is black, the outer 2/3rd of the front wing is white.
315. B This fabric pest moth larva rarely leaves any silken webbing on fabric.

Use TRUE or FALSE to answer the following questions.

316. False Fabric moths are attracted to lights at night and rest in poorly lighted areas in the day.
317. True Carpet beetles are more economically important than clothes moths.
318. False The first instar larvae of clothes moths must feed on "clean wool", not soiled by oil, sweat, soft drinks, etc.
319. False Adult carpet beetles feed on woolen fabrics and silk.
320. False Fabric moths have a wingspan that is between 3/4" and 1" in length.
321. False Fabric pests can digest the cellulose of fabrics.
322. True Cockroaches can damage fabrics.
323. True Woolens, furs, silk, hides, horns, piano felts, and horsehair brush bristles all can be damaged by fabric pests.
324. True Hide beetles can be found feeding upon dead insects and on dead birds or rodents.
325. False Both the larva and adult stages of carpet beetles damage woolen fabrics.
326. False Fabric pests can damage cotton and rayon fabrics.
327. False Sanitation is not normally important in control of clothes moths.
328. False There are no pheromone lures for fabric pest moths.
329. False Black carpet beetle and casemaking clothes moths larvae do not wander much at all.

FLIES AND MOSQUITOES

Use the following family names of flies that are important in pest control for questions 330 – 334

A. Muscidae B. Drosophilidae C. Calliphoridae D. Tabanidae E. Sarcophagidae

330. C Bottle and Blow flies
 331. A House flies
 332. E Flesh flies
 333. B Fruit flies
 334. D Horse flies & deer flies

Use the following answers for questions 335 – 355

A. Common house fly	E. Cluster fly	I. Moth fly	N. Stable flies
B. Blow fly and bottle fly	F. Fruit fly	J. Horse fly	O. <i>Hippelates</i> flies
C. Face fly	G. Flesh fly	K. No-see-ums (sand flies)	
D. Black fly	H. Phorid fly	M. Deer flies	

335. F This fly is a small fly, about 1/8" long and has red eyes.
 336. J + M This fly has a painful bite and only the females take a blood meal from man.
 337. K The larvae of these flies lives in mud or decaying plant material and their bites may take several weeks to heal.
 338. H These small flies are about 1/8" long and are known as humpbacked flies or coffin flies.
 339. C + E These two flies overwinter in the voids (walls and attics) of homes.
 340. A This is the most common fly found all over the world. It's life cycle is short, from 7 days to 45 days, depending upon the temperature and other conditions.
 341. B This fly is about twice the size as a house fly and is metallic green or blue in color.
 342. G This fly is about 2 to 3 times the size of a house fly and has three dark stripes on its thorax and has a black and gray checkerboard pattern on its abdomen.
 343. A This fly has four dark stripes on its thorax.
 344. I This small fly is about 1/16" in length and both its body and wings are densely covered with long hairs that give the body a "fuzzy" appearance.
 345. F, H, I These three flies may develop in drains.
 346. F This small fly is most commonly associated with decaying fruits and vegetables and garbage.
 347. E This fly is parasitic on earthworms.
 348. B These large flies lay their eggs on meat scraps or dead animal carcasses.
 349. G These large flies are often found near dog runs where they lay their living larvae on meat scraps or dog excrement.
 350. E The flies usually have their wings folded over each other when at rest and have several curly, yellow hairs on the sides of its thorax.
 351. DJKMN These five flies all bite man.
 352. O These flies come to the eyes of their host as well as to mucous and sebaceous secretions, pus, and blood and are quite persistent. They do not bite.
 353. C + E These two flies are not controlled by sanitation and habitat destruction, but by exclusion.
 354. E Although this fly is somewhat larger and darker than the housefly, it is more sluggish in movement and flies much more slowly.
 355. F This fly, *Drosophila melanogaster*, was used in genetic studies because it has a short life cycle and is easy to rear in the laboratory.

Match the following species of mosquitoes on the right with the questions on the left

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|--|-------------------------------------|
| 356. <u>C</u> This mosquito transmits yellow fever and dengue | A. <i>Anopheles quadrimaculatus</i> |
| 357. <u>A</u> This mosquito transmits malaria | B. <i>Culex pipiens</i> |
| 358. <u>B</u> This mosquito transmits encephalitis & West Nile fever | C. <i>Aedes aegypti</i> |

RODENTS

Use the following rodent species listed to the right to answer the following questions below:

- | | | | |
|------|-------|---|----------------|
| 359. | A | This rodent has small eyes and large ears. | A. House Mouse |
| 360. | B | This rodent has large eyes and large ears. | B. Roof Rat |
| 361. | C | This rodent has small eyes and small ears | C. Norway Rat |
| 362. | C | This adult rodent is about 7 to 18 ounces in weight. | |
| 363. | B | This adult rodent is about 5 to 9 ounces is weight. | |
| 364. | A | This adult rodent is about ½ to 1 ounce in weight. | |
| 365. | A | This rodent has 4 to 7 young per litter. | |
| 366. | B | This rodent has 4 to 8 young per litter. | |
| 367. | C | This rodent has 8 to 12 young per litter. | |
| 368. | B | This rodent has a tail that is longer than its head and body combined. | |
| 369. | C | This rat is the best swimmer. | |
| 370. | B | This rat is the best climber and makes nests in trees and attics. | |
| 371. | A | This rodent has a home range radius of 10 to 33 feet. | |
| 372. | A | This rodent is inquisitive. | |
| 373. | B + C | These rodents are shy. | |
| 374. | B | This rodent has rodent droppings that are ½" in length and spindle shaped. | |
| 375. | C | This rodent has rodent droppings that are ¾" to 1 inch in length and capsule shaped | |
| 376. | C | This rodent has a blunt nose. | |
| 377. | A | This rodent prefers nuts, grains, and seeds. | |
| 378. | C | This rodent prefers meat, fish, and grains (oats). | |
| 379. | B | This rodent prefers fruits, vegetables, nuts, and grains | |
| 380. | A | This rodent can subsist without free water. | |
| 381. | A | This rodent is a nibbler. | |
| 382. | C | This rodent originated from Europe and came to the United States around 1775. | |
| 383. | A | This rodent originated from the grassy plains of Southeast Asia. | |
| 384. | B | This rodent originated from the arboreal forests of Southeast Asia. | |
| 385. | B | This rodent is primarily confined to the coastal states of the United States. | |

Answer the following questions as "TRUE" (T) or as "FALSE" (F)

- | | | |
|------|-------|---|
| 386. | True | Adult rats must drink 15 to 30 milliliters of water daily. |
| 387. | False | Adult rats consume ½ pound of food daily. |
| 388. | True | Adult mice consume 1/10 ounce of food daily. |
| 389. | False | The smallest diameter hole or opening that a rat can enter a home is ¼". |
| 390. | False | The smallest diameter hole or opening that a mouse can enter a home is 1/8". |
| 391. | False | Rodents have poor senses of smell and hearing. |
| 392. | True | Rodents use vibrissae to explore their environment. |
| 393. | True | There are three commensal <u>rodents</u> in Georgia. |
| 394. | True | There are three commensal <u>rats</u> in the United States. |
| 395. | False | Rodents live approximately ½ year in the field. |
| 396. | True | The Norway rat, roof rat, and house mouse all are capable of making burrows. |
| 397. | False | The Norway rat produces more young per female/year than do Roof rats and house mice. |
| 398. | True | Rodents may become bait shy when they ingest a non-lethal dose of a non-anticoagulant rodenticide and it makes them sick. |
| 399. | True | Rodent urine is often detectable with a ultraviolet light, because rodent urine fluoresces. |
| 400. | True | Rodent odors can be detected many times when there are large infestations of rats or mice in a structure. |
| 401. | True | Removal of food, water, and shelter is essential to a rodent control program. |
| 402. | True | Rodent-proofing (exclusion) is the best way to prevent rodent infestations in structures. |
| 403. | True | It is important to control rodents because they bite man, transmit diseases, start fires, and feed on and contaminate the food that man eats. |