



Disease

Elementary Science
Olympiad

1. What is wrong with these cutting board photos? (1 point)
2. Be sure to name two types of specific bacteria which could be found. (2 points)
3. How can you prevent disease from this? (1 point)



Match the basic term in Column A with the Meaning of the term in Column B (1 point each)

Column A

- _____ 1. Outbreak
- _____ 2. Surveillance
- _____ 3. Pandemic
- _____ 4. Vector
- _____ 5. Cohort
- _____ 6. Risk
- _____ 7. Cluster
- _____ 8. Carrier
- _____ 9. Epidemic
- _____ 10. Case-control

Column B

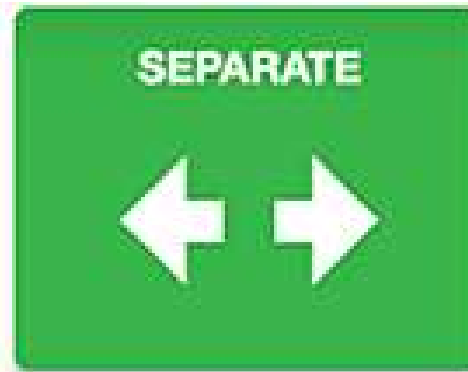
- A. Compare people with and without exposures to see what happens to each
- B. A collection of cases over a particular period closely grouped in time and space, regardless of whether the number is more than the expected number
- C. Compare people with and without disease to find common exposures
- D. A person or animal that harbors the infectious agent for a disease and can transmit it to others, but does not show signs of the disease
- E. Large numbers of people over a wide geographical area affected
- F. The probability that an individual will be affected by, or die from, an illness or injury within a stated time or age span.
- G. More cases of a particular disease than expected in a given area or among a specialized group of people over a particular time
- H. The systematic and ongoing collection, analysis, interpretation, and dissemination of health data.
- I. An epidemic occurring over several countries or continents and affected a large proportion of the population.
- J. An animal that transmits disease



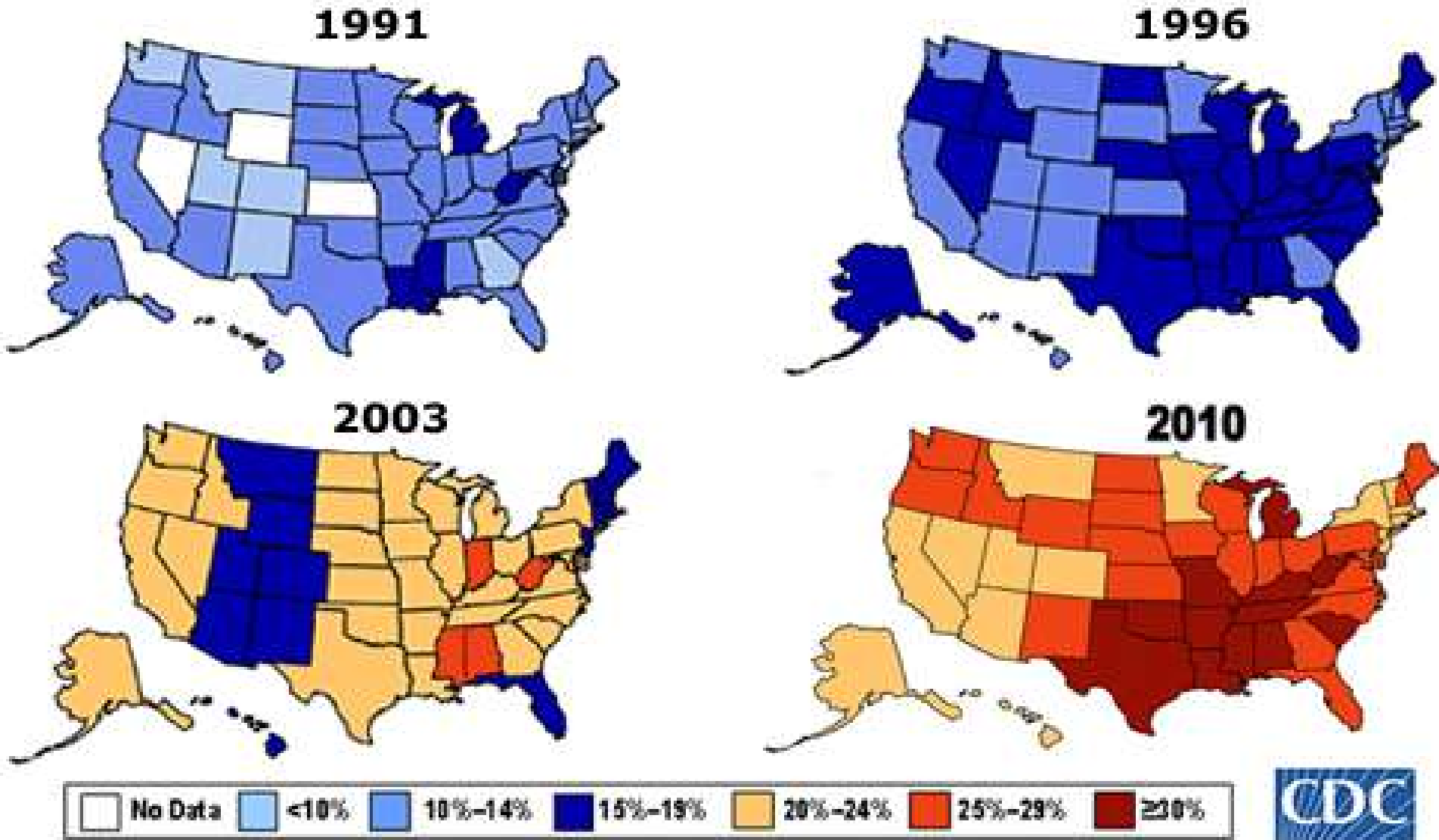
Name at least four water safety items and what they prevent from the pictures. Some may be in more than one photo. (One point for naming items in the photos and one more point for prevention/risk analysis)



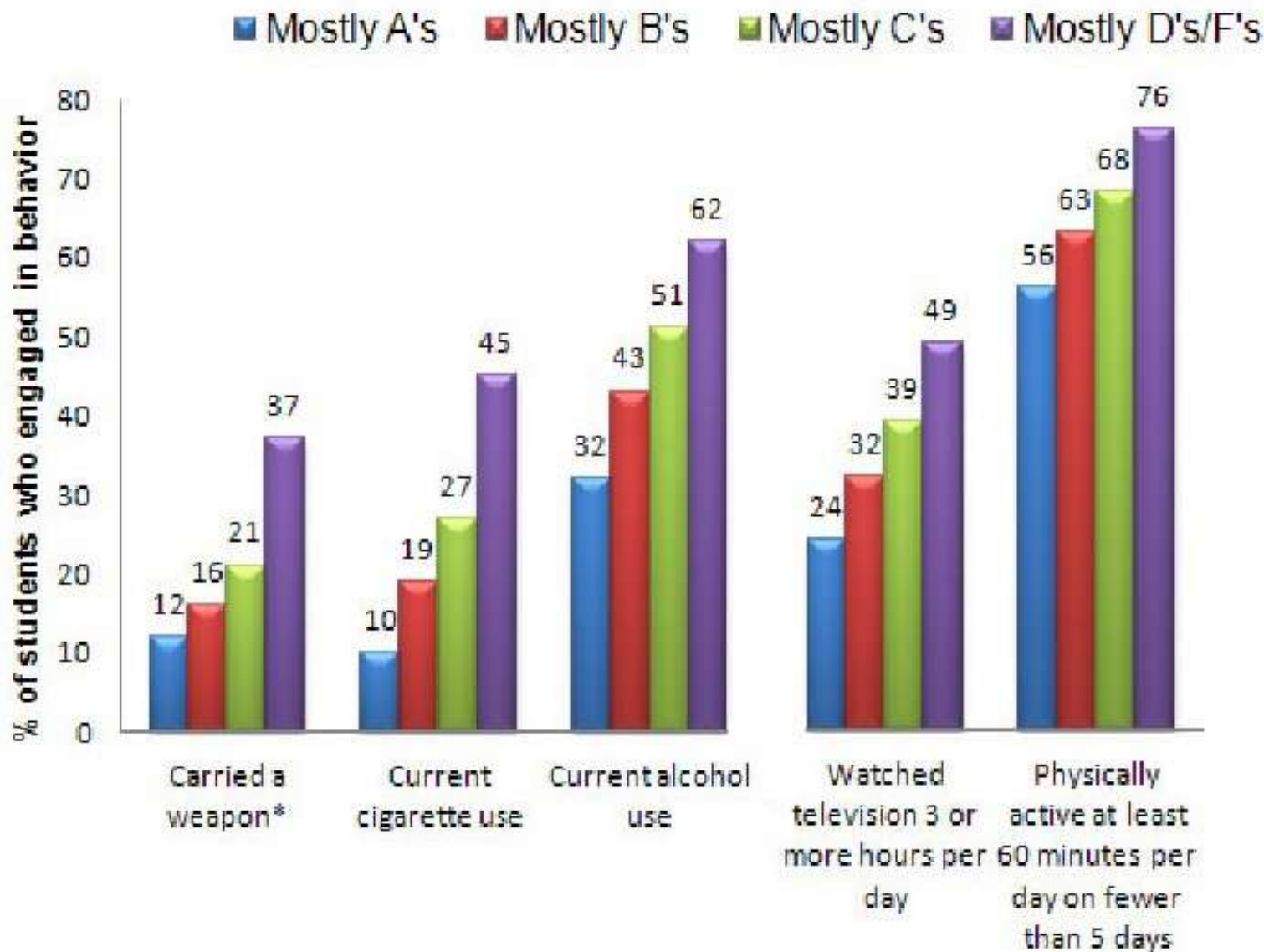
When preparing meals, you should always remember the four things below. Describe each one of the four **with examples**. (1 point each square).



Describe both the nationwide trend AND Georgia's trend in childhood obesity as the years go up. List specific data. Describe why you think this is true and how to decrease risk in the future. (4 points).



Were there any exceptions in rising trends for students in risky behaviors of those who had worse grades? Explain. Describe this chart with specific data and reasons. (3 points total).





Teacher Answers
Perfect Score =
33

Time can be
tiebreaker

Regional Elementary
Disease
Science Olympiad

1. What is wrong with these cutting board photos?
 2. Be sure to name two specific bacteria types which could be found.
 3. How can you prevent disease from this?
- (One point questions 1 & 3, two points question 2)

1. Meat and vegetables should never be cut together on a wooden cutting board.

2. Diseases transmitted could include:

Salmonella (chicken)

Campylobacter (chicken)

Ecoli (chicken)

Enterococcus (chicken, but not as harmful)

Klebsiella pneumoniae (chicken)

Staphylococcus aureus (chicken)

Ecoli (Bibb/leaf lettuce)

3. Keep meat and vegetables off of the same cutting board. It is not a good idea to cut chicken on a wooden board



ANSWER TO : Practice Activity - Background Information

Task: Match the Basic Term in Column A with the Meaning of the Term in Column B

Column A	Column B
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__G__ 1. Outbreak A. compare people with and without exposures to see what happens to each

__H__ 2. Surveillance B. an aggregation of cases over a particular period closely grouped in time and space, regardless of whether the number is more than the expected number

__I__ 3. Pandemic C. compare people with and without disease to find common exposures

__J__ 4. Vector D. a person or animal that harbors the infectious agent for a disease and

can transmit it to others, but does not demonstrate signs of the disease

__A__ 5. Cohort E. large numbers of people over a wide geographical area affected

__F__ 6. Risk F. the probability that an individual will be affected by, or die from, an illness or injury within a stated time or age span.

__B__ 7. Cluster G. more cases of a particular disease than expected in a given area or among a specialized group of people over a particular period of time

__D__ 8. Carrier H. the systematic and ongoing collection, analysis, interpretation, and dissemination of health data

__E__ 9. Epidemic I. an epidemic occurring over several countries or continents and affected

a large proportion of the population

__C__ 10. Case-control J. an animal that transmits disease

When preparing meals remember to follow these safety tips: (Example answers) 1 pt. each.

Clean Wash hands, cutting boards, utensils, and countertops.

Separate Keep raw meat, poultry, and seafood separate from ready-to-eat foods.

Cook Use a food thermometer to ensure that foods are cooked to a safe internal temperature: 145°F for **whole meats** (allowing the meat to rest for 3 minutes before carving or consuming), 160°F for **ground meats**, and 165°F for all **poultry**.

Chill Keep your refrigerator below 40°F, and refrigerate food that will spoil.

When transporting food, it is important to remember that harmful bacteria can start to grow when prepared food falls between temperatures of 40 and 140 °F (4.4 °C and 60 °C); perishable food transported without an ice or heat source won't stay safe long. It is important to properly store and refrigerate leftovers.

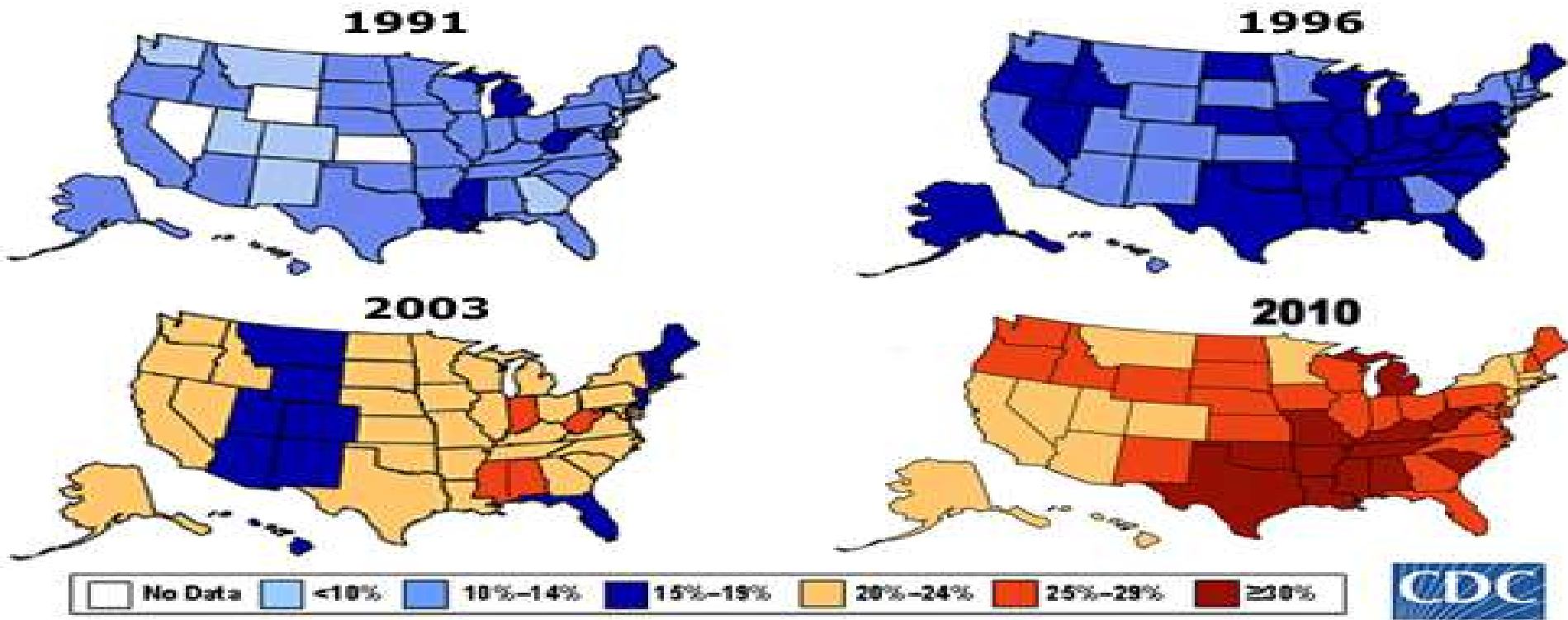
Keep in mind the following when storing and eating leftovers:

Refrigerate cooked leftovers within 2 hours and ensure the temperature in the refrigerator is at 40 °F or below.



Describe both the nationwide trend AND Georgia's trend in childhood obesity as the years go up. List specific data. Describe why you think this is true and how to decrease risk in the future. (4 points).

Nationwide, obesity almost doubles between 1991 and 2010. Georgia specifically goes from <10% obese in 1991 to 10-14% obese in 1996 to 20-24% obese in 2003 to 25-29% in 2010. This is probably true due to a more inactive lifestyle, all parents in the home working, children staying indoors more and choosing to be inactive and the prevalence of fast food and other high calorie restaurants being more accessible.



Were there any exceptions in rising trends for students in risky behaviors of those who had worse grades? Explain. Describe this chart with specific data and reasons. (3 points total).

There were no exceptions in any of the data showing that as a student performs worse in school, their behavior is always more risky (carrying weapons, smoking cigarettes, alcohol use, watching more TV, and being less physically active). In summary, the higher the grades, the less risky behaviors and vice versa.

