

Sample Lesson Topic Discussion Plan

Session 1

Introduction to the course

Discussion of policies

Topics

Food Quality

Units of Measure

Lifestyles and Nutrition

Achieving a Healthy Diet

Key Terms

Session 2

Topics

Dietary Reference Intake

Nutrition Facts/Food Labels

Key Terms

Session 3

Topics

Basic Biology, Anatomy and Physiology

The Human Body Systems

Indicators of Health

Key Terms

Session 4

Topics

Digestion and Absorption of Carbohydrates

Functions of Carbohydrates on the Body

Health Consequences and Benefits of High Carbohydrate Diets

Carbohydrates and Personal Diet Choices

Alcohol Metabolism and Health Consequences of Alcohol

Key Terms

Session 5

Topics

Functions of Lipids in the Body

How Lipids Work

Lipids and the Food Industry

Lipids and Disease

A Personal Choice about Lipids

Key Terms

Session 6

Topics

Defining Protein

The Role of Proteins in Food: Cooking and Denaturation

Protein Functions in the Body

Diseases Involving Protein

Proteins, Diet, and Personal Choices

Key Terms

Session 8

Topics

Fat Soluble Vitamins

Water Soluble Vitamins

Antioxidants

The Body's Offense

Phytochemicals

Key Terms

Session 9

Topics

Overview of Fluid and Electrolyte Balance

Water's Importance to Vitality

Consequences of Deficiency or Excess

Water Concerns

Popular Beverage Choices

Session 10

Topics

Introduction to Minerals

Calcium

Phosphorus

Sulfur

Magnesium

Key Terms

Session 11

Topics

Iron

Copper

Zinc

Selenium

Iodine

Chromium

Manganese

Molybdenum

Fluoride

Key Terms

Session 12

Topics

Weight Management

Factors Affecting Energy Intake

Factors Affecting Energy Expenditure

Dietary, Behavioral, and Physical Activity Recommendations for Weight Management

Key Terms

Session 13

Topics

The Major Types of Foodborne Illness

The Causes of Food Contamination

Protecting the Public Health

The Food System

Food Preservation

Food Processing

Efforts on the Consumer Level: What Can You Do

Key Terms

Session 14

Topics

Comparing Diets

Nutrition, Health and Disease

Threats to Health

Undernutrition, Overnutrition and Malnutrition

Careers in Nutrition

Key Terms

Sample Quiz 1

1. Identify two macronutrients:
 - a. _____
 - b. _____
2. Which nutrient can the body not go without for more than one week?
3. Discuss two major differences between minerals and vitamins:
 - a.
 - b.
4. One thousandth of one gram is called a _____gram.
5. One kilocalorie equates to _____ calories.
6. Convert 220 pounds to kilograms.
7. Identify a drug that can provide the body energy.
8. List 3 factors that affects an individual's dietary choices:
 - a.
 - b.

c.

9. A person who does not include food from any animal origin is typically classified as a _____.
10. The concept of obtaining nutrition from different food groups is called _____.

Sample Quiz 2

1. Identify the most basic form of life that differentiates a living organism from an inanimate object.
2. List 4 basic processes of life.
3. List and describe, in order, how the body processes food from when entering the mouth, to leaving the anus as feces.
4. Briefly describe the role of the endocrine system in relation to the digestive system.
5. Briefly discuss why one's body mass index (BMI) is an initial screening measurement, and not a diagnosis of one's health.

Sample Quiz 3

1. Identify the most complex form of a carbohydrate and list the three most common types found in this form of carbohydrate.
2. Identify the carbohydrate type that humans cannot digest and briefly discuss why it is still vital to consume this type of carbohydrate.
3. Identify the locations in the gastrointestinal tract where carbohydrates can be broken down and the respective enzyme that performs the breakdown.

4. Define ketosis and briefly discuss how it is induced, as well as whether it is safe or unsafe in a relatively healthy human body.

Sample Quiz 4

1. Identify the statement "Everyone needs to drink 8 cups of water daily" as a true or false statement and provide support for your answer.
2. Describe what is meant by "tonicity," identify one type of cell that is highly relevant to the concept of tonicity and provide a sample situation where a cell may become "hypertonic."
3. List and describe 4 purposes of water within the body.
4. Define the term "electrolyte" and discuss its importance in fluid balance.

Score: _____

Put your name on the quiz so that it can be properly identified.

On questions where more than one answer is requested, put each answer on its own line, do not stack answers

Appropriate example: a. minerals b. vitamins

Inappropriate example: a. minerals/vitamins b. water

On short answer questions, write in complete sentences, utilize acronyms only after the original term has been utilized, utilize units where appropriate, and mind the grammar and spelling utilized.

Appropriate example: The recommended dietary allowance (RDA) for vitamin C is 90 milligrams (mg) per day.

Inappropriate example: vit Cs rda is 90

On questions that require listing and describing, utilize a numbering list format, and separate the two components with a hyphen.

Appropriate example

1. Thiamin – a participant in energy-yielding reactions
2. Riboflavin – maintenance of the integrity of skin

Inappropriate example

1, thiamin a participant in energy-yielding reactions 2, riboflavin maintenance of the integrity of skin

Rubric

All questions are weighed equally weighed (ex. if a quiz is worth 8 points, and there are 10 questions, each question is worth 0.8 points each).

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If a question requests more than one response, the question's total worth is divided by the number of answers requested (ex. if a question is worth 0.8 points, and 2 answers are requested, each answer is worth 0.4 points).

If a question requests a list and description, the instructor may choose to either weigh both components equally (ex. if a question is worth 0.8 points, and a list of two answers and descriptions are requested, each list answer is worth 0.2 points, and each description is worth 0.2 points), or shift the weight on one particular component (ex. if a question is worth 0.8 points, and a list of two answers and descriptions are requested, each list answer is worth 0.1 points and each description is worth 0.3 points), depending on the question difficulty.

Incorrect answers yield no credit. Partial credit may be given depending on the answer quality.

Incorrect spelling of more than one letter yields a 10% penalty to the question.

Sample Nutrition Application Assignment (NAA):

Utilizing the provided food label, answer the questions, and demonstrate the math calculations as proof:

Sample label for
Macaroni & Cheese

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings Per Container 2			
Amount Per Serving			
Calories 250 Calories from Fat 110			
% Daily Value*			
Total Fat 12g			18%
Saturated Fat 3g			15%
Trans Fat 3g			
Cholesterol 30mg			10%
Sodium 470mg			20%
Total Carbohydrate 31g			10%
Dietary Fiber 0g			0%
Sugars 5g			
Protein 5g			
Vitamin A			4%
Vitamin C			2%
Calcium			20%
Iron			4%
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.			
	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

1. Calculate the number of kilocalories that originate from carbohydrates. _____
2. Based on the number of calories stated on the label, how many calories is a person intaking if the entire container was eaten? _____
3. If a person weighs 70 kg, and is to ingest 0.8 kcals of protein per kg to meet their daily protein need, what percentage of the person's total daily protein need does this food item provide (round to the nearest tenth of one percent)? _____
4. If a person ate solely this item for the entire day, how many containers of the item would the person need to consume to obtain 50% of their recommended dietary allowance of vitamin C for the day? _____

NAA Instructions

Answer the questions provided on the assignment. As the answers are purely mathematical, the questions will either yield full credit for a correct answer, or no credit for an incorrect answer.

Rubric

Each correct numerical answer accompanied with its appropriate calculation will yield 1/4th of the total point value for the assignment (ex. if the assignment is worth 5 points, each correct answer and its calculation will yield 1.25 points).

Each question that has the correct numerical answer, but missing the calculation, will yield 20% of the total value for the question (ex. if the assignment is worth 5 points, each question is worth 1.25 points; each correct numerical answer will yield 0.25 points). This means that each calculation is worth 80% of the question (ex. each correct calculation will yield 1 point).

It is at the discretion of the instructor if they wish to provide partial credit for partially correct calculations, or no credit at all.

Sample Reaction Paper Assignment Instructions

Watch the movie "Farm to Fridge" (<https://www.youtube.com/watch?v=ju7-n7wygP0&t=616s>)

Note: this film may be considered extremely disturbing (if the instructor wishes to utilize an alternate video and respective questions, the instructor has the academic freedom to do so).

Upon completion of the movie, answer the following questions in your own opinion:

1. Were you aware of the methods utilized in the film to provide food to many common eateries?
2. Do you consider all the of practices observed in the film necessary to feed the population?
3. Which scene had the biggest impact on your cognitive processes?
4. What do you believe is one physiological effect that could occur when a person consistently consumes animals treated in this manner? Provide a citation for your hypothesis.
5. After watching this film, will you make any dietary changes? Why or why not?

Rubric

Criteria	Unacceptable	Substandard	Mediocre	Extraordinary	Target
Appearance, Grammar, and Spelling Weight 50.00%	20.00 % The document is unprofessional in appearance, and there are more than 2 instances of grammatical or spelling errors	40.00 % The document is professional in appearance, and there are 6 - 10 instances of grammatical or spelling errors	60.00 % The document is professional in appearance, and there are 3 - 5 instances of grammatical or spelling errors	80.00 % The document is professional in appearance, and there are 1 - 2 instances of grammatical or spelling errors	100.00 % The document is professional in appearance (proper font, spacing, and table set-up), and there are no grammatical or spelling errors
Content, Comprehension and Topic Formatting Weight 50.00%	20.00 % A component is missing in more than 2 instances, or the information is purely incoherent	40.00 % Component is missing in 2 instances, or the information has little rhyme or reasonable flow; information is found where it should not be, and vice versa	60.00 % Component is missing in 1 instance, or the information has a lack of continuity, belonging and/or support in its appropriate category	80.00 % All components requested are provided, albeit forcefully or indirectly, and most of the information is coherent, orderly, and supportive	100.00 % All components that has been requested are provided and to the point, as well as all information being coherent and formatted in an orderly fashion

Sample Final Exam

1. There are currently ____ recognized nutrients that are considered required for the body to function and maintain overall health.
 - a. Three
 - b. Five
 - c. Six
 - d. Nine
2. ____ are not a macronutrient.
 - a. Carbohydrates
 - b. Lipids
 - c. Minerals
 - d. Proteins
3. One kilocalorie equates to ____ calorie(s).
 - a. 1
 - b. 10
 - c. 100
 - d. 1000
4. ____ can affect nutritional needs.
 - a. Drug use
 - b. Physical activity
 - c. Sleeping patterns
 - d. All available choices
5. ____ are the fundamental building units that contain and encourage life.
 - a. Atoms
 - b. Cells
 - c. Tissues

d. Organs

6. The ____ is not part of the alimentary/gastrointestinal canal.
- a. Esophagus
 - b. Small intestine
 - c. Stomach
 - d. Tongue
7. ____ is a rhythmic contraction that propels the bolus from the esophagus to the stomach.
- a. Deglutition
 - b. Peristalsis
 - c. Segmentation
 - d. Tonicity
8. When a mass of partially digested food has been introduced to gastric juices secreted by stomach cells, this semiliquid mass is known as ____.
- a. Bolus
 - b. Chyme
 - c. Feces
 - d. Reflux
9. Identify the following statement as true or false: One cannot die from drinking excess water.
- a. True
 - b. False
10. Cells will expand when introduced to conditions that are considered ____ to the cell.
- a. Hydrotonic
 - b. Hypertonic
 - c. Hypotonic
 - d. Isotonic
11. Blood osmolarity is detected by the ____.
- a. Heart

- b. Hypothalamus
 - c. Kidneys
12. ____ is not a monosaccharide.
- a. Fructose
 - b. Galactose
 - c. Glucose
 - d. Sucrose
13. ____ is a polysaccharide that has numerous benefits in a human's diet, even though humans do not produce an enzyme to break it down.
- a. Fiber
 - b. Glycogen
 - c. Oligosaccharide
 - d. Starch
14. The enzyme that can break down polysaccharides into dextrins is known as ____.
- a. Lactase
 - b. Pancreatic amylase
 - c. Salivary amylase
 - d. Sucrase
15. When blood glucose levels fall below homeostatic levels, the hormone ____ is released in an attempt to increase blood glucose levels.
- a. Glucagon
 - b. Glycogen
 - c. Insulin
 - d. Somatostatin
16. One gram of lipids provides approximately ____ kilocalories of energy.
- a. Three
 - b. Four
 - c. Seven

d. Nine

17. ____ are considered essential, as they cannot be produced in the body.

- a. Omega fatty acids
- b. Phospholipids
- c. Sterols
- d. Triglycerides

18. Digested fatty acids enter circulation via a ____.

- a. Blood capillary
- b. Lacteal
- c. Liver lobule
- d. Parietal cell

19. Of the available choices, lipids with a high percentage of ____ tend to be solid at room temperature.

- a. Monounsaturated fatty acids
- b. Polyunsaturated fatty acids
- c. Saturated fatty acids

20. Proteins are composed of ____ essential and ____ nonessential amino acids.

- a. 9, 11
- b. 11, 9
- c. 20, 20
- d. 104, 20104

21. The process where protein is exposed to abnormal environmental conditions and undergoes a physical change is known as ____.

- a. Deamination
- b. Denaturation
- c. Decomposition
- d. Dehydration

22. One must eat an animal-based product to obtain all their amino acids.
- a. True
 - b. False
23. The chemical digestion of protein begins at the ____.
- a. Large intestine
 - b. Mouth
 - c. Small intestine
 - d. Stomach
24. To metabolize glucose, the human body must intake ____ via respiration.
- a. Carbon dioxide
 - b. Methane
 - c. Nitrogen
 - d. Oxygen
25. The breakdown of fatty acids into energy is known as ____.
- a. Beta-oxidation
 - b. Gluconeogenesis
 - c. Glycolysis
 - d. Proteolysis
26. ____ defines an environment that promotes increased non-healthy food intake and physical inactivity.
- a. Endothermic
 - b. Exothermic
 - c. Obesogenic
 - d. Pathogenic
27. Any calculation that attempts to estimate human energy requirement must consider ____.
- a. Hormone levels
 - b. Metabolic properties due to individual adipose-to-lean mass ratio
 - c. Physical activity levels
 - d. All the listed options

28. Molecules that have unpaired electrons are called superoxides.
- a. True
 - b. False
29. ____ are not a factor typically considered when evaluating one's energy intake.
- a. Educational influences
 - b. Genetic and physiological influences
 - c. Psychological influences
 - d. Social influences
30. Vitamin ____ is a water-soluble vitamin.
- a. A
 - b. B
 - c. E
 - d. K
31. Vitamin ____ is not typically associated to play an antioxidant-based role in the human body.
- a. A
 - b. B
 - c. C
 - d. E
32. Pernicious anemia can be treated by intaking an appropriate amount of vitamin ____.
- a. A
 - b. B12
 - c. E
 - d. K
33. ____ is not a major mineral.
- a. Calcium
 - b. Magnesium
 - c. Niacin
 - d. Sodium

34. Minerals have a high level of bioavailability.

- a. True
- b. False

35. Most of the magnesium in the human body is stored in the ____.

- a. Adrenal glands
- b. Bone tissue
- c. Liver
- d. Small intestine

36. Phosphorus does not play a role in ____.

- a. Bone mineral density
- b. Cell membrane structure
- c. Energy production
- d. Protein synthesis

37. ____ is required to maintain the synthesis of hemoglobin.

- a. Fluoride
- b. Iron
- c. Molybdenum
- d. Selenium

38. ____ is not a typical cofactor involved enzymatic function.

- a. Copper
- b. Iodine
- c. Selenium
- d. Zinc

39. ____ is essential for regulation of metabolism, growth, and development via the thyroid hormone.

- a. Copper
- b. Iodine
- c. Selenium
- d. Zinc

40. Excess fluoride intake may cause tooth discoloration.
- a. True
 - b. False
41. The recommended daily allowance values established are set to meet ____ of the population's needs.
- a. 50%
 - b. 66%
 - c. 97%
 - d. 100%
42. On a nutrition facts label, the value for ____ is not mandatory to list.
- a. Added sugars
 - b. Fiber
 - c. Iodine
 - d. Vitamin D
43. A food may be labeled "organic" if it contains at least ____ of its ingredients from organic sources.
- a. 50%
 - b. 75%
 - c. 95%
 - d. 100%
44. An individual consumes 2 servings of a food item that contains 12 grams of carbohydrates, 9 grams of lipids and 2 grams of proteins. The individual has consumed approximately ____ kilocalories.
- a. 92
 - b. 137
 - c. 274
 - d. 414
45. Common symptoms of foodborne illnesses include ____.
- a. Diarrhea
 - b. Dehydration
 - c. Vomiting

d. All available choices

46. A foodborne illness is always triggered by the last meal a person ate.

- a. True
- b. False

47. _____ is a type of food preservation method considered highly controversial, and requires a special label known as the Radura symbol.

- a. Freezing
- b. Irradiation
- c. Pasteurization
- d. Vacuum packing

48. The _____ diet provides guidelines with a focus on stopping hypertension.

- a. DASH
- b. Gluten-free
- c. Low-carb
- d. Mediterranean

49. _____ is an epidemic that is typically involved in the prevalence of all the other listed choices.

- a. Cardiovascular disease
- b. Diabetes Type II
- c. Cancer
- d. Obesity

50. _____ is an eating disorder characterized by episodes of eating large amounts of food followed by purging via vomiting or laxatives.

- a. Anorexia nervosa
- b. Bulimia
- c. Binge-eating disorder
- d. Pica

Name: _____

Score: _____

Exam Instructions (**this is a suggested cover page to the exam**)

Put your name on the exam so that it can be properly identified.

Once instructions have been provided, this page may be flipped to begin the exam.

The test may (**not**) be used as scrap paper. Put all final answers on the scantron (**if available**).

If an answer differs between what was selected on the exam, and what was selected on the scantron, the answer on the scantron will be what is utilized as the final answer.

If there is a question where more than one answer may seem plausible, select the “best” answer.

Ex. If stranded on a deserted island, the first thing one should seek, if survival is the goal, is _____.

- a. Coffee
- b. Food
- c. Water

Water would be the most sensible answer to pick here, as one cannot survive long without water in comparison to the other two items on the list. For those that wish to contest that coffee is a viable option because it has water in it, as one of the many drug-like effects in coffee include a mild diuretic effect, plus the fact that one needs water to make coffee in the first place, “coffee” would not be suitable for selection. For those that wish to contest that certain foods have high-water content, making food the better option, the fact that the term “water” is being used once again to rationalize the choice, indicating the importance of the substance itself, plus the fact that the term “food” could mean any consumable substance, which may include low-water content food, “food” is an unsuitable choice.

Rubric

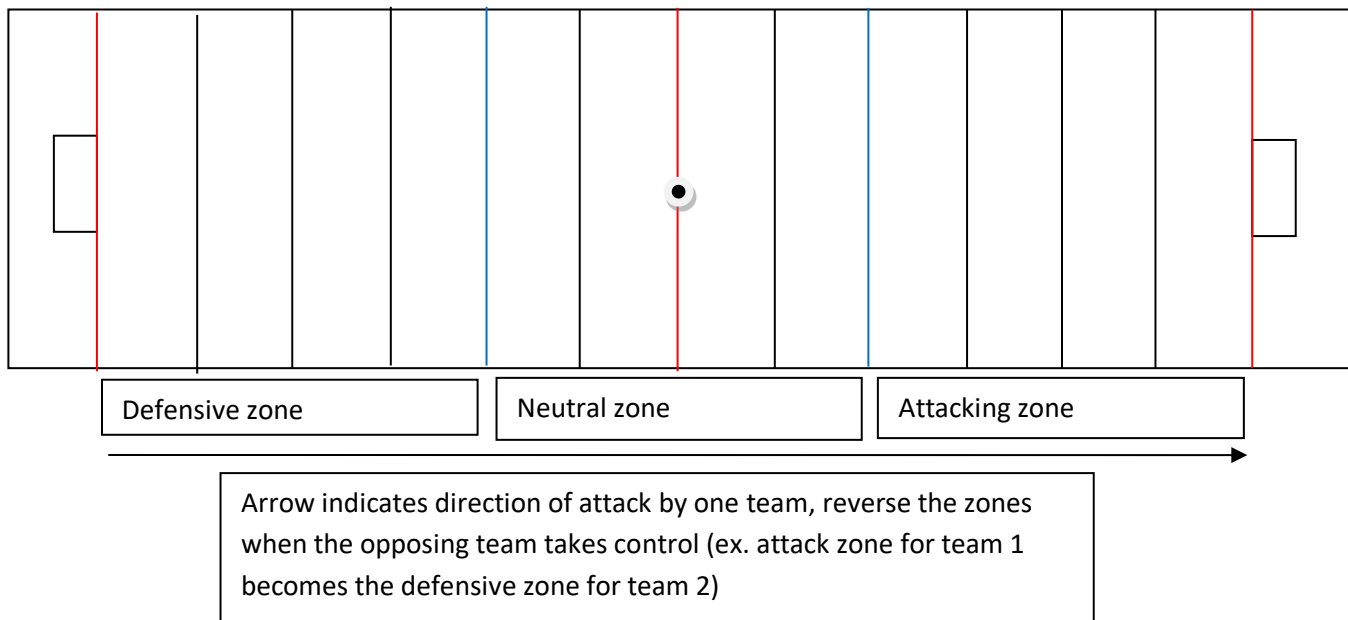
Each correct answer will yield 1/50th (**change as necessary to reflect the number of questions on the exam**) of the total possible credit earnable on the exam.

Each incorrect answer will yield no credit.

Sample Class Activity (Review Key Terms)

Inspired by Sister Teresa, Saints Peter and Paul School, Brooklyn, NY 1990 - 1993

Set the class into two teams. Create a “hockey board” as such:



Team set up:

Have each team select a “goalie.” Then, depending on the number of students, have the teams broken up into “units.” A unit should have no more than 5 players, and each unit is to assign a captain. Seat the teams and units appropriately to keep order in the game.

Example: Class of 22 (S = Student)

Team 1

Team 2

S 1 (Goalie)

S 12 (Goalie)

S 2 (Unit 1.1, Captain)

S 13 (Unit 2.1, Captain)

S 3 - 6 (Unit 1.1)

S 14 - 17 (Unit 2.1)

S 7 (Unit 1.2, Captain)

S 18 (Unit 2.2, Captain)

S 8 – 11 (Unit 1.2)

S 19 – 22 (Unit 2.2)

Roles:

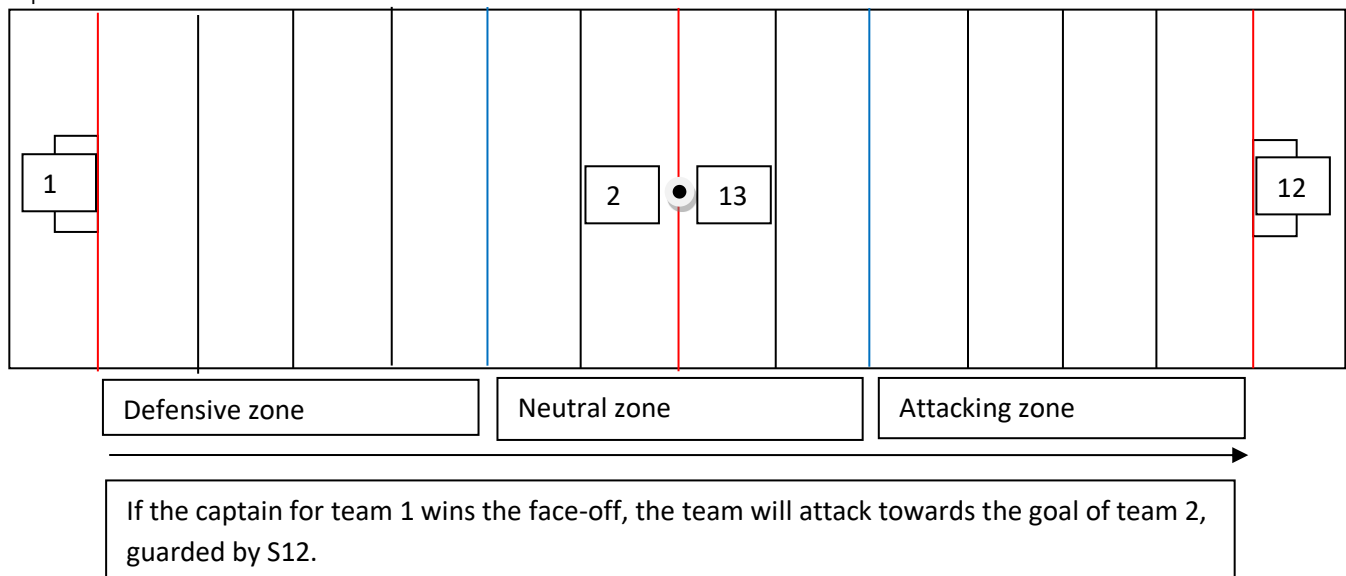
The role of the goalie is to prevent any attempts at goal by the opposing team from scoring. The role of the units is to take turns attempting to score by alternating turns when a turnover occurs.

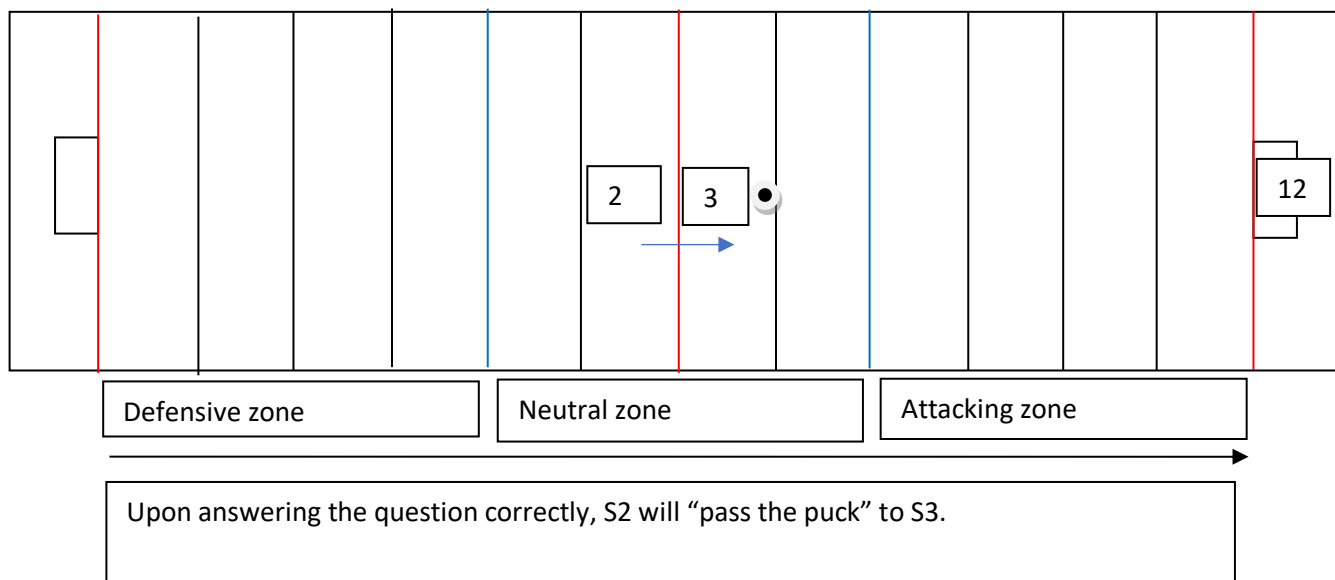
Rules:

Begin the game at the center line (middle red line) as seen on the original diagram (this also applies after a score).

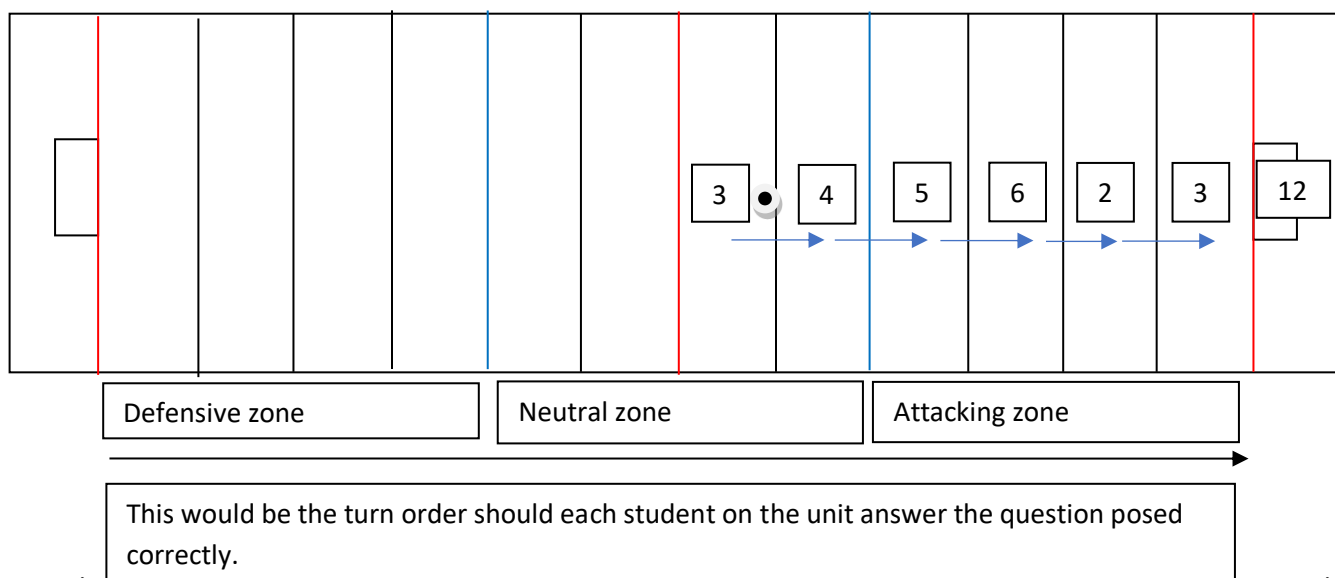
The captains for the first unit of each team will “face-off.” Pose a question where the answer can be answered using one “key term.” The question may be posed either with or without options, depending on the desire of difficulty. The captain that answers the quickest will take control of the puck and advance it towards the direction of the opposing team's goal.

Example:

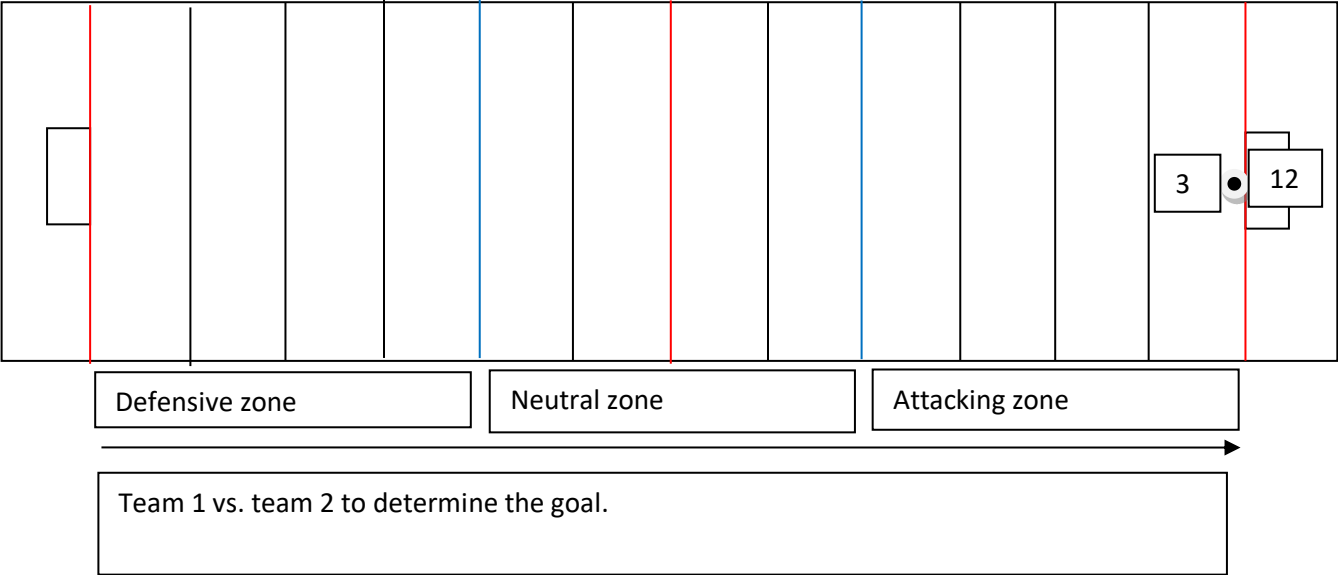




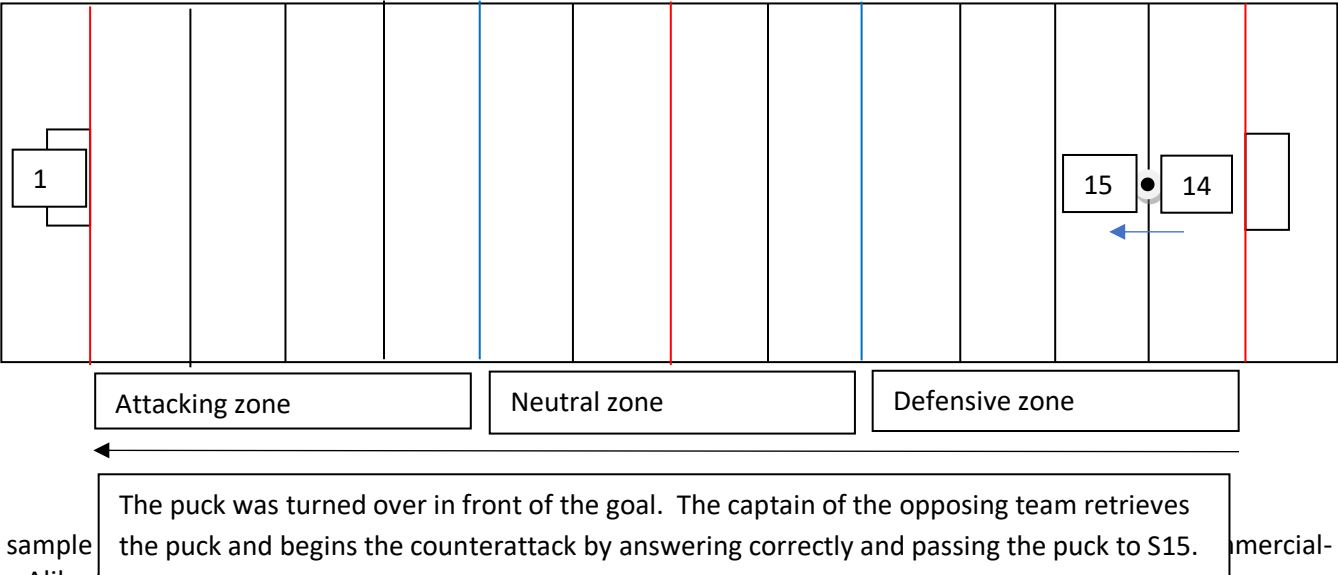
The next student will then answer a question in the same format that was presented to the previous student, except now the student has a timer (the instructor can set this to whatever they feel is “fair,” such as “3 seconds”) to answer the question instead of having to answer the question quicker than the opposing student.



Once the student has reached the goalie, if the student in front of the goalie correctly answers their question, the goalie is given a question, and it must be answered correctly to prevent the score. If the goalie fails to answer the question correctly, the team scores one goal, and the game is reset back to “mid-ice” (the center line) to determine who gains possession (note that if the instructor sees a clear disadvantage between the teams, the instructor may adopt a “loser’s out” approach, where the opposing team automatically begins with possession at mid-ice in lieu of having a face-off; this should be determined before the game officially begins).

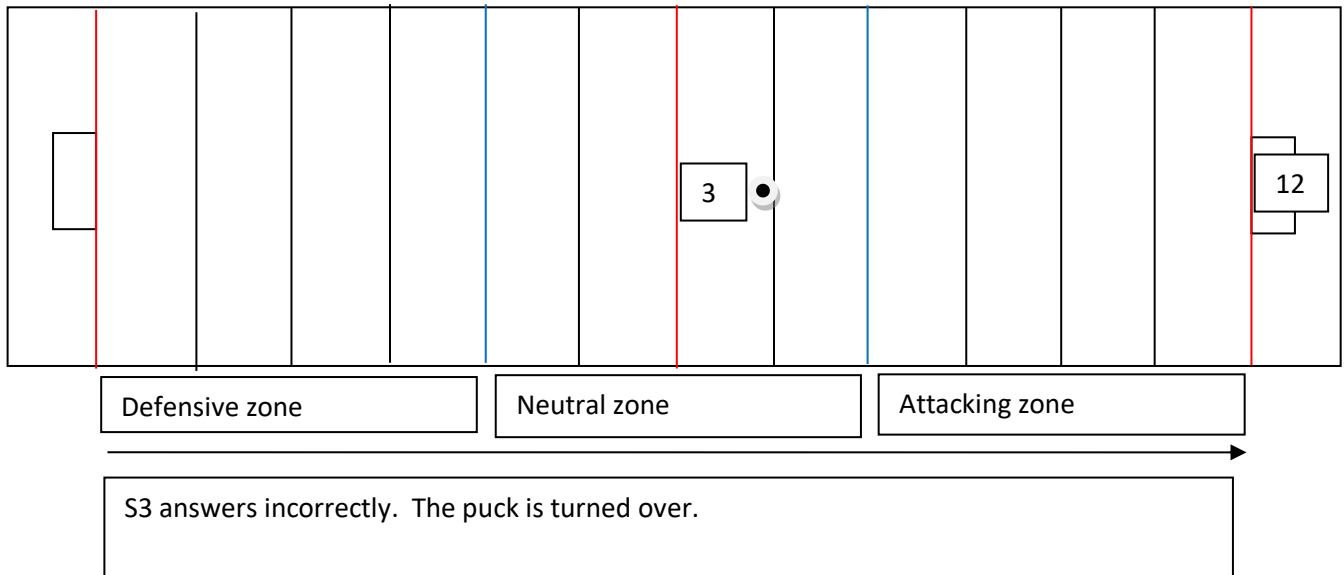


If the goalie answers correctly, the puck is “turned over” and the opposing team now reverses the direction of the puck to attempt scoring their own goal, in the same manner that the opposing team moved the puck, one player at a time answering a question correctly.

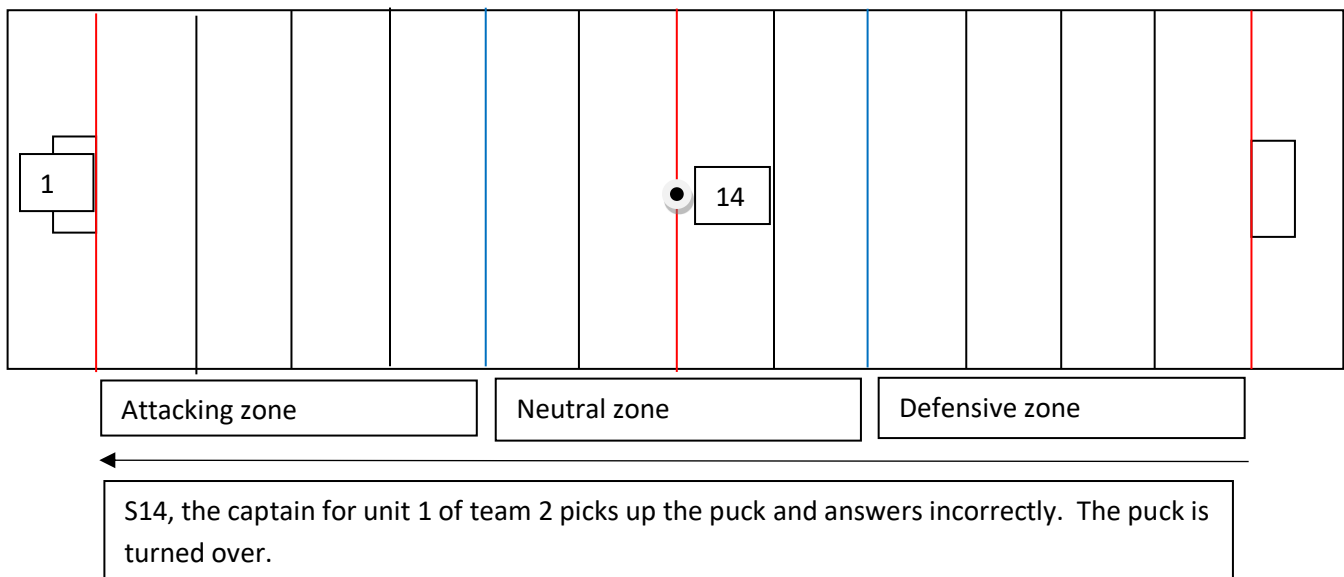


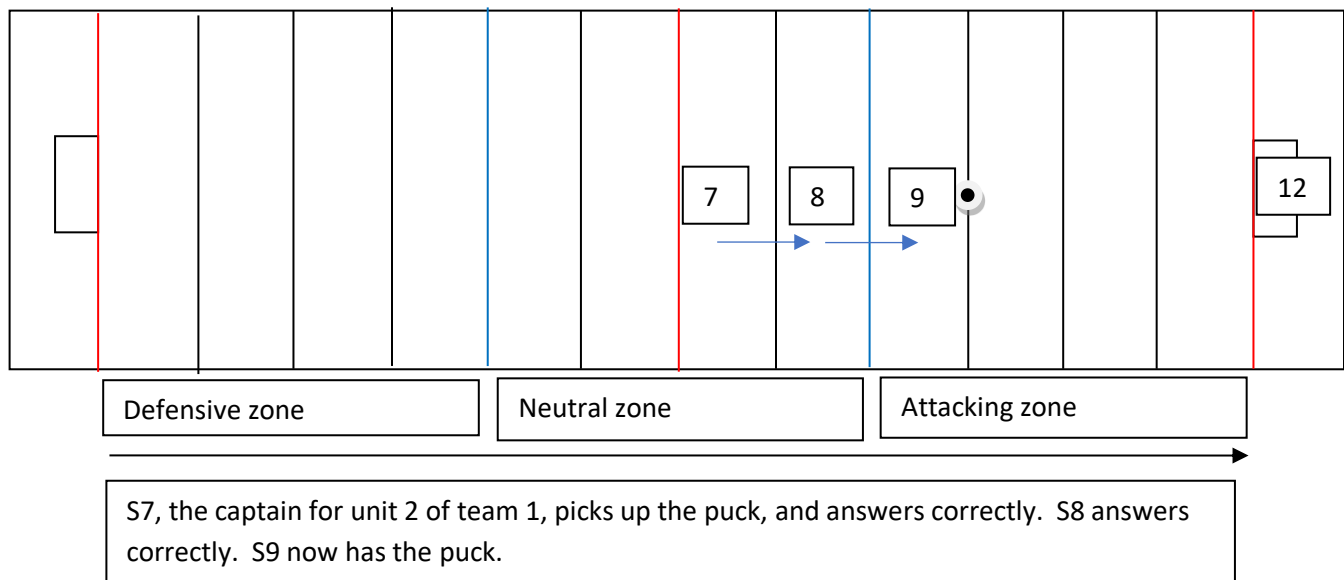
Note that the puck can be turned over at any point with an incorrect answer, not only in front of the goal.

When a turnover occurs, the original team that turned over the puck must now swap with the alternate unit on the team.

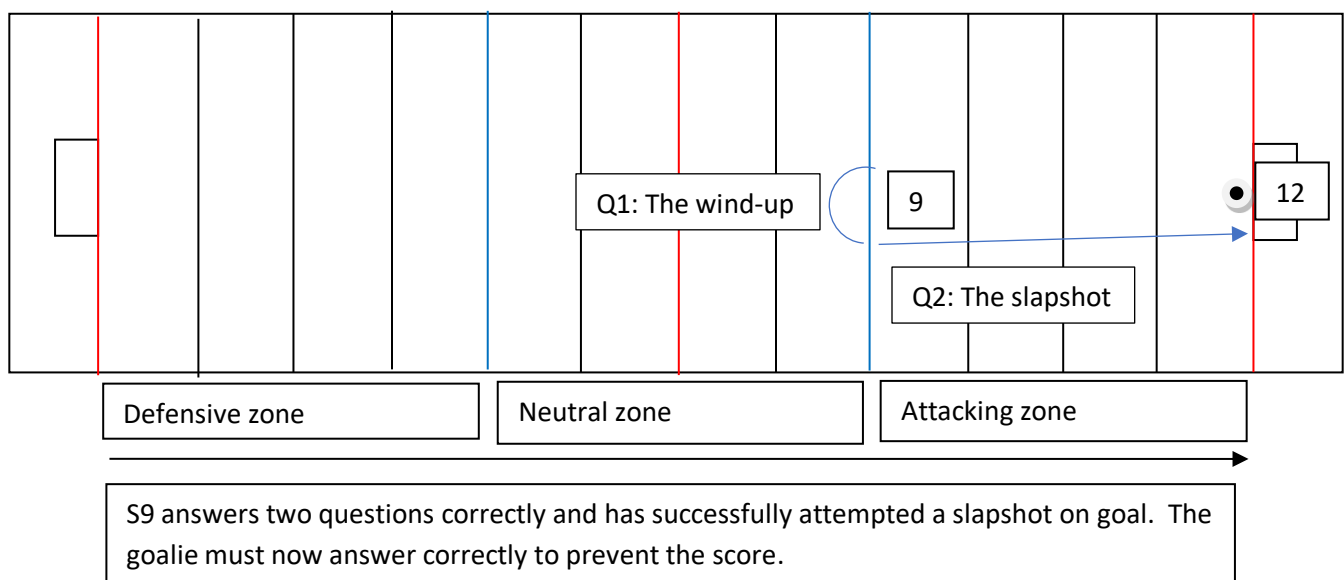


the goalie is given a question, and it must be answered correctly to prevent the score.



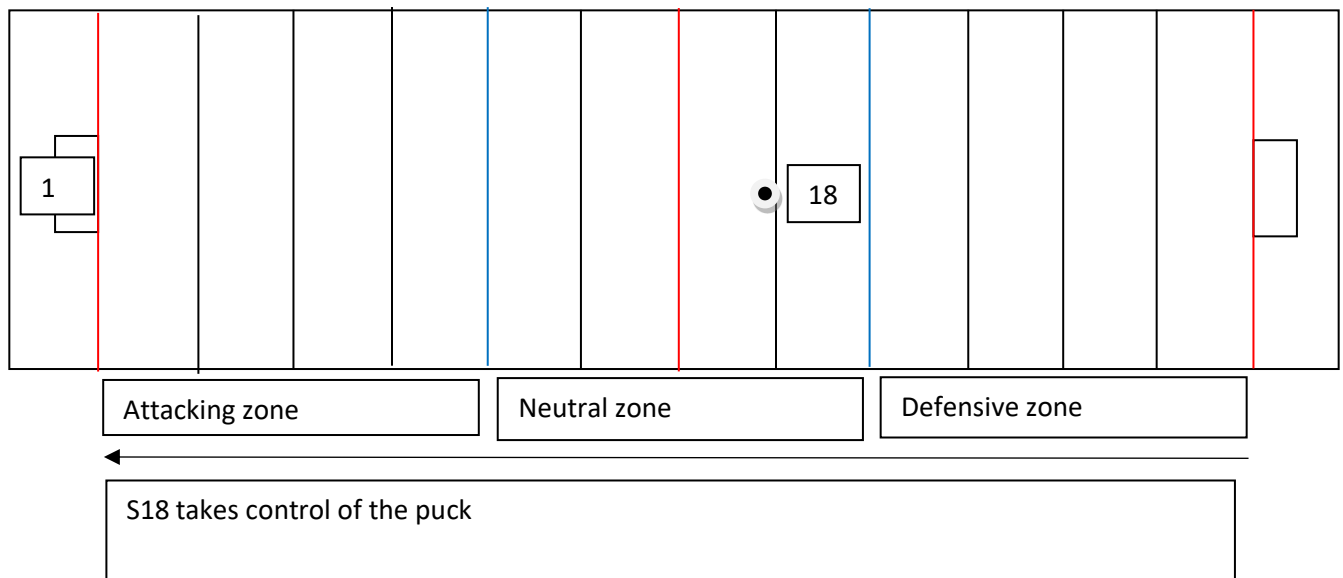
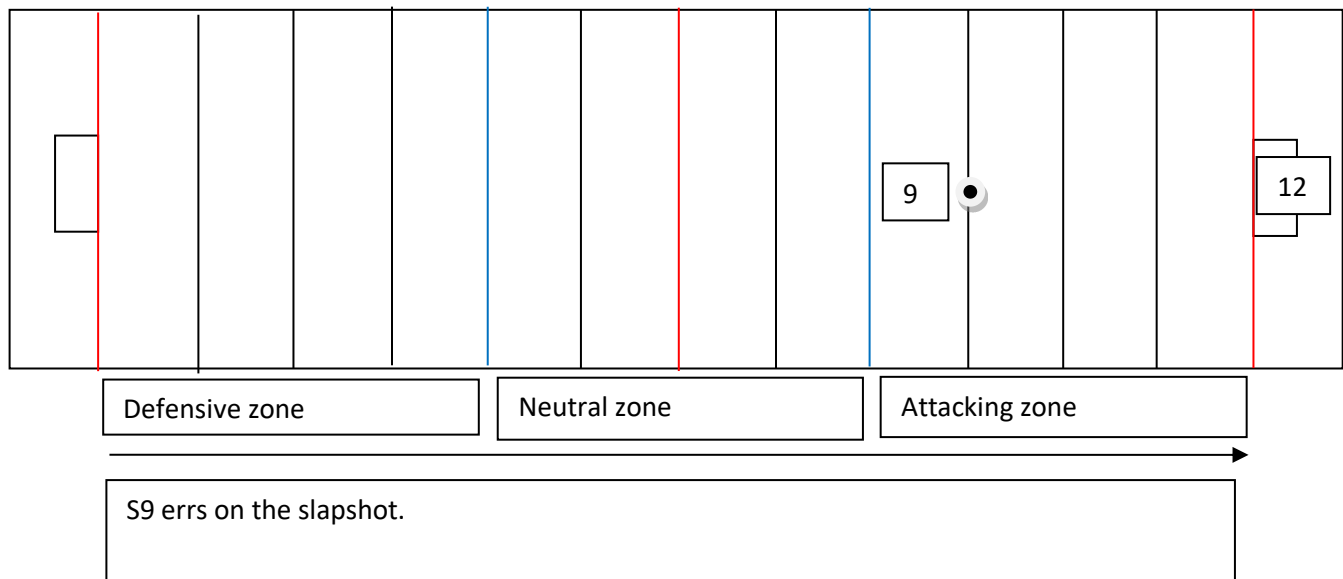


To add an extra layer of strategy to the game, as a player (not only the puck) is now in the "attacking zone," the player may attempt a "slapshot" and score a goal from their current position. To mimic the difficulty of scoring with a slapshot, the skater must answer two questions correctly in a row, and the questions should be of a higher degree of difficulty. If the skater answers both questions correctly in a row, the goalie still has a chance to defend the shot by answering a question correctly. If the goalie misses the question, the team on offense scores one goal, and a face-off occurs (unless determined otherwise prior to the start of the game).



If during the slapshot, the player misses either question (if the player missed the first question, the player was checked, if the player missed the second question, the player's shot was blocked), the opposing team takes over control of the puck one segment behind where the player attempted the slapshot and begins their counterattack.

the goalie is given a question, and it must be answered correctly to prevent the score.



To reduce the chances of overzealous students attempting slapshots from all over the ice, it is recommended to keep legitimate attempts within the attacking zone only. Granted, similar to basketball, one can take a shot from anywhere in the ice and theoretically score, and the rules can be altered as one pleases in this version of the game, but the probability of success in the game should match, or at least be similar to, the chances one would have in a legitimate sports game (less than 1%).

If there are not an even number of students, the extra student can assist with support roles, such as record, score, and timekeeper. It is suggested that this student is an automatic captain or goalie on a proceeding game, as these are the roles that receive more exposure in the game, and as the student had little exposure to the actual activity as a support role in the previous, it would allow for the student to “gain back” some of that lost exposure.

Note that any of these rules may be changed to fit the instructor's idea of a fair game; the rules proposed here were an attempt to utilize a game that has a lot of action, keep as many of the legitimate rules as possible for the hockey enthusiasts (face-off, line changes, slapshots, etc.), and keep the students as actively involved as possible. It is very feasible to change the theme of the game from hockey to basketball with little loss in the essence of the game. This game has been done with themes of the aforementioned sports, as well as baseball/softball, American football and football/soccer. Basically, just about any team sport can be utilized with enough creativity exercised.