The Science in Folklore and Proverbs



A quirky quiz of quaint quotations

John Parsons

Nelson Literacy Directions

The SCIENCE in Folklore and Proverbs

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Dear Reader

People have observed patterns and phenomena in their environments for thousands of years – and often, this knowledge of the natural world has been passed on in the form of folklore and proverbs. Traditional sayings and stories could help farmers predict the weather and care for their animals, keep seafarers and their ships safe from dangerous weather, and explain many of the natural cycles that people in past times relied upon for food, shelter and making decisions about the future.

> "RED SKY IN THE MORNING,
> SHEPHERD'S WARNING, RED SKY AT NIGHT,
> SHEPHERD'S DELIGHT."

Much of this traditional knowledge can be explained by science and, not surprisingly, we now know a great deal of it is based on fact. This book is a fun way of testing your knowledge of some of these traditional sayings – and perhaps learning one or two other useful pieces of folklore along the way. Have fun!

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The animal world provides a great source of traditional wisdom (and some occasional mistakes, too).

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Aim of the Game

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Be prepared for a fun, fast-paced competition, with furious head-scratching and fascinating facts! This is not just another science book – and it's not just another reader's theatre book, either, where characters take turns to read their lines.

It's an interactive, page-turning game that aims to provide the scientific basis behind many of folklore's proverbs. The best part is that no one – not you, not your classmates, not even your teacher – will know what will happen until the very end.

This is a live-action quiz competition for the whole class. But, like all quizzes, preparation is the key. Before you get started, you'll need to have a few props on hand and to familiarise yourself with the rules of the competition.





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Characters

You will need the following characters, who can be boys or girls, students or teachers (except the teams, which are not allowed any adults in them):

- QUIZMASTER
- SCRUTINEER
- TIMEKEEPER
- ADJUDICATOR
- TEAMS – made up of four students, one of whom is the team scribe.

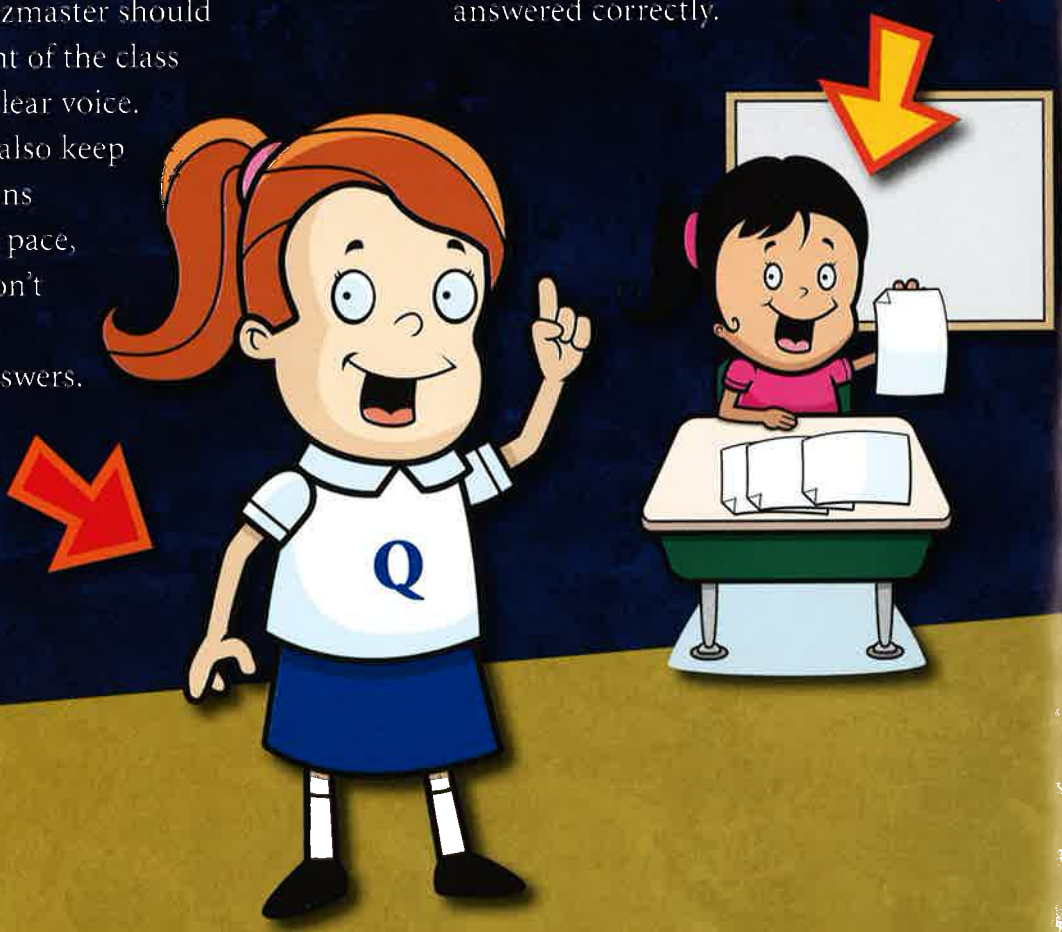
The Quizmaster

The quizmaster is the person responsible for narrating the background to each saying or proverb, and for posing the questions that each team must answer. The quizmaster should stand at the front of the class and speak in a clear voice. He or she must also keep the quiz questions coming at a fast pace, so that teams don't have too long to finalise their answers.

The Scrutineer

The scrutineer sits at the desk next to the timekeeper. At the end of each round, each team hands in their answers to the scrutineer, who keeps an accurate record of how many questions each team has answered correctly.

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The Teams

Teams are made up of four students. Each team should think up a clever name for themselves, such as "the Scientific Superstars" or "the "Magnificent Mythicals". One member from each team should be chosen as the person responsible for writing each answer down and handing it in to the scrutineer. This person shall be known as the team scribe.

The Timekeeper

The timekeeper sits at the desk next to the adjudicator. After each question is posed by the quizmaster, the timekeeper uses their watch or clock to allow 30 seconds for each team to write down their answer. To add to the pressure, the last ten seconds must be counted down aloud!



The Adjudicator

The adjudicator is the person who reveals the correct answers after all the teams have handed in their answer slips to the scrutineer.



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Props

You will need the following props:

- The adjudicator, timekeeper and scrutineer will need a desk or table at the front of the class to sit at.
- The timekeeper will need a watch or a clock with a second hand on it.
- The scrutineer will need a pen, a pad or sheet of paper and a whiteboard and marker pen.
- Each team will need a desk or table to sit around.
- The team scribe will need a pen and three sheets of paper, one for each round.

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Rules of the Science in Folklore and Proverbs Quiz



During the quiz, only the quizmaster, the adjudicator and the scrutineer are allowed to have copies of this book open.

Text in the green boxes is not for speaking out loud.

There will be three rounds of three questions.

At the start of each round, each team must write their team name clearly at the top of a piece of paper. After the quizmaster poses each question, the teams will have 30 seconds to decide on an answer and write it down. At the end of each round, the answers must be handed to the scrutineer. The scrutineer keeps a record of the number of correct answers each team gives and, at the end of the quiz, he or she will announce the top teams.

If a team submits an answer that is unclear, the adjudicator will decide whether the given answer is correct or incorrect.

THE MOST IMPORTANT RULE:

IF YOU'RE A MEMBER OF A TEAM, AND YOU'RE PLAYING IN THIS QUIZ,

CLOSE YOUR COPY OF THIS BOOK NOW!

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Round 1

The **Science** in Agricultural Folklore and Proverbs

QUIZMASTER:

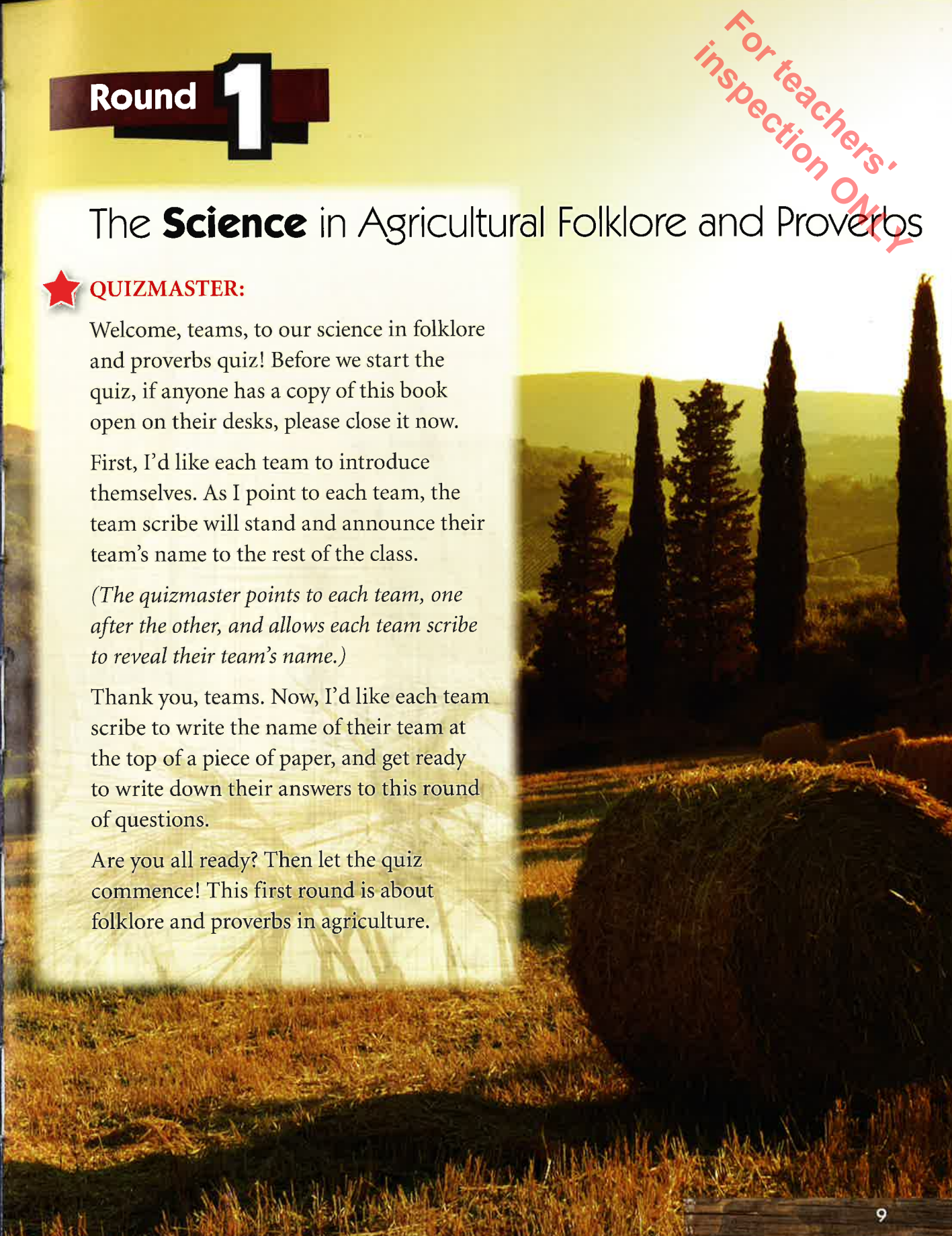
Welcome, teams, to our science in folklore and proverbs quiz! Before we start the quiz, if anyone has a copy of this book open on their desks, please close it now.

First, I'd like each team to introduce themselves. As I point to each team, the team scribe will stand and announce their team's name to the rest of the class.

(The quizmaster points to each team, one after the other, and allows each team scribe to reveal their team's name.)

Thank you, teams. Now, I'd like each team scribe to write the name of their team at the top of a piece of paper, and get ready to write down their answers to this round of questions.

Are you all ready? Then let the quiz commence! This first round is about folklore and proverbs in agriculture.



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Question 1

QUIZMASTER:

A common saying for something that happens very rarely is "once in a blue moon". But just how often does a blue moon appear?

Is it:

(a) never

(b) approximately once every hundred years

(c) approximately once every two-and-a-half years?

Thirty seconds, teams. Write down your answer: a, b or c.

TIMEKEEPER:

(waits until 20 seconds have passed, then counts down the last ten seconds):

10. 9. 8. 7. 6. 5. 4. 3. 2. 1.



Native American Moon Names

The northern Native American Algonquin tribes gave each monthly moon a different name.

Folklore Fact

January	Full Wolf Moon
February	Full Snow Moon
March	Full Crow Moon
April	Full Pink Moon
May	Full Flower Moon
June	Full Strawberry Moon
July	Full Buck Moon
August	Full Sturgeon Moon
September	Full Corn Moon
October	Full Hunter's Moon
November	Full Beaver Moon
December	Full Cold Moon

Question 2

QUIZMASTER:

When people are tempted to criticise a gift they have been given, they are often warned not to "look a gift horse in the mouth". This means it is considered ungrateful to try and work out how valuable a gift is. But why would someone have wanted to look into a horse's mouth to try and work out how valuable it was?

Is it:

(a) because they wanted to see what the horse had been eating

(b) because they wanted to see what the horse's teeth looked like

(c) because they wanted to see if the horse had a sore throat?

Thirty seconds, starting now! Write down your answer: a, b or c.

TIMEKEEPER:

(waits until 20 seconds have passed, then counts down the last ten seconds):

10. 9. 8. 7. 6. 5. 4. 3. 2. 1.

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Question 3

QUIZMASTER:

If someone is called "the black sheep of the family", it is often meant as a criticism. It implies that the person doesn't behave as the other members of the family do, and that their behaviour may cause problems. This saying arose because in the old days, farmers were disappointed when a black sheep was born into a flock of white sheep. Why would the appearance of a black sheep in a flock of white sheep have been a problem for farmers?

Is it:

(a) because few people wanted black wool

(b) because black sheep were usually more badly behaved than white sheep

(c) because if a black sheep bred with a white sheep, any resulting sheep would have had grey wool?

Thirty seconds, teams, to write your answer down: a, b or c.

TIMEKEEPER:

(waits until 20 seconds have passed, then counts down the last ten seconds):

10. 9. 8. 7. 6. 5. 4. 3. 2. 1.

That's the end of Round One, teams. Now, all team scribes must hand in their answers to the scrutineer.

(Once all teams have handed in their answer sheets, the adjudicator stands. While the quizmaster and the adjudicator are giving the following answers, the scrutineer counts up the correct answers for each team and records the results on the whiteboard.)



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ROUND 1 – ANSWERS

QUIZMASTER:

Answer to question 1: How often does a blue moon appear?



ADJUDICATOR:

Until the start of modern agricultural practices, around a century ago, most farmers planted and harvested their crops according to the seasons and the phases of the moon. In most years, three full moons would appear during each of the four seasons, making a total of 12 full moons per year, or one per month. Farmers knew to plant crops before the last full moon of winter, and to harvest them before the last full moon of summer.

But because the orbit of the moon around Earth is not exactly one month, every so often there would be 13 full moons in a year. One of the seasons would end up having an extra full moon. This extra full moon was known as a "blue" moon. Farmers who planted or harvested by the phases of the moon had to be aware of this extra moon, or their schedules would become out of step with the seasons.



A blue moon is actually quite common. There's an extra full moon about once every two-and-a-half years. The correct answer to Question 1 is (c).

Folklore Fact

Ash Before Oak

An old farmers' rhyme is "Ash before oak, the summer's a soak, oak before ash, the summer's but a splash". This meant that if leaves appeared on an ash tree before an oak tree, the summer would be wet. If an oak tree's leaves unfurled first, the summer would have only light rain. Ash trees are light sensitive and unfurl their leaves when the days become longer. Oak trees are heat sensitive and unfurl their leaves when the temperature rises. Therefore, if an oak tree's leaves appear first, the weather is warmer and a hot, dry summer is likely.





an ash tree (left) and an oak tree (right)



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QUIZMASTER:

Answer to question 2: Why would someone have wanted to look into a horse's mouth to try and work out how valuable it was?

ADJUDICATOR:

In the old days, the value of a horse depended on how old it was. A young horse, fit and full of energy, was much more valuable to a farmer than an old horse, which was more likely to be tired and less able to work hard.

An experienced farmer could accurately tell the age of a horse by examining its teeth. Like humans, horses have milk teeth, or "baby teeth", and permanent teeth, which are larger and stronger. A horse gets its permanent two front teeth at the age of three years. Permanent teeth replace milk teeth on either side of the front teeth at four years of age. At five years of age, the next two teeth on either side appear.

A horse's permanent teeth have deep hollows, or "cups", on their surface. By the time a horse is over ten years old, most of these hollows will have been ground away through the action of chewing fibre, soil or sand. The age of a horse between six and ten years old can be estimated by how deep the "cups" in its teeth are.

The age of a horse's teeth can also be deduced by their shape. A young horse has broad, flat teeth. By the age of ten years, the back surface of each tooth will have been ground into an oval shape. By the time a horse is around 15 years old, the back surface of its teeth will almost always be triangular.

The answer to Question 2 is (b): because the person wanted to see what the horse's teeth looked like as a way of assessing the horse's age and ability to work.

Folklore Fact

Long in the Tooth

If someone is described as being "long in the tooth", it means they are old. This saying came about because horses' teeth, unlike human teeth, keep growing as the horse gets older. A horse with long teeth will be older than a horse with short teeth.



A foal has very short teeth.



An older horse has very long teeth.

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Strike While the Iron's Hot

This is another common saying that means "act quickly when an opportunity arises". Blacksmiths, who make horseshoes and other iron implements, knew the best time to shape iron was to hit or strike it when it was red-hot. This is because, at high temperatures, the atoms in metals can slide past each other without breaking.

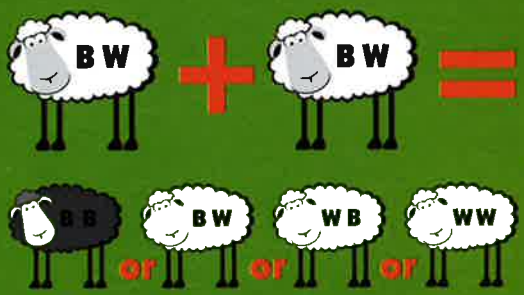


a blacksmith shapes a red-hot horseshoe

White or Black?

Science Fact

If a sheep's mother and father contribute one gene each to their offspring, there are four ways the genes can combine. But, as a white gene will always cancel out a black gene, only one combination will result in a black sheep:



QUIZMASTER:

Answer to question 3: Why would the appearance of a black sheep in a flock of white sheep have been a problem for farmers?

ADJUDICATOR:

Wool colour is determined by a sheep's genetic makeup, which it inherits from its parents. White wool is determined by dominant genes and black wool is determined by recessive genes. If a sheep inherits both dominant and recessive genes from its parents, then the dominant genes cancel out the recessive genes and the sheep has white wool.

Before today's distinctive breeds of sheep were developed using careful genetic selection, around one in 20 sheep could be born with black wool, making them relatively common.

However, black wool could not be dyed as easily as white wool, and the demand for black wool for use in fabrics was limited. A farmer would have been disappointed when he saw a black sheep in his flock because he knew he wouldn't make any money from its wool.

The answer to Question 3 is (a): because few people wanted black wool.

SCRUTINEER:

The results of round one are as follows. *(The scrutineer announces each team's scores.)*