

An Encyclopedia of Learning

Fill in the circle by the correct answer. Then answer questions 3, 4, and 5.

1. Which two words are synonyms?
 - A systematizer, organizer
 - B crude, astute
 - C deductions, assumptions
 - D impeded, anticipated

2. In this article, authors Robert Downs and Don Nardo both _____.
 - A describe Aristotle's scientific procedure
 - B praise Aristotle's contributions to science
 - C criticize Aristotle for his incorrect findings
 - D state solutions to Aristotle's problems

3. In paragraph 1, what does the author mean by "some turned out to be less factual than others"?

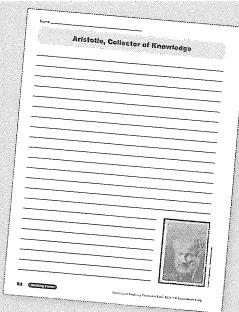
4. In your own words, explain what Don Nardo means by Aristotle's "negative" "influence on the future growth of knowledge."

5. Sum up the points on which the author, Downs, and Nardo all seem to agree.

Write About the Topic

Use the Writing Form to write about what you read.

In your opinion, should scientists always question facts that scientists of the past have gathered? Explain why or why not.



Individual Sports

Level 1

Words to Know list, Reading Selection, and Reading Comprehension questions

Time-Consuming! Expensive! Fun!

If you have watched the Winter Olympics at all, you have probably seen figure skaters gliding across the ice, jumping, twirling, and dancing their way to the finish line. It looks easy, but that's because they practice, practice, practice. Skating is a sport that requires time-consuming practice, some merit training, and lots of money. Dedicated skaters train in the evenings, weekends, and even while in camp. In fact, figure skaters, coaches, families, and choreographers do not come cheap! So what would inspire a skater?

What Would Be a Successful Skater?

When coaches begin training, they ask themselves questions like these:

- Does the child have the right physique for the sport?
- Is the child strong, flexible, and coordinated?
- Does the child have the desire to succeed?
- Is the child a "good sport" and willing to work hard?
- Is the child a good role model for parents and other family members who are watching?
- Are parents willing to put in the time and money necessary to support the skater?

The answers to most of these questions must be "yes."

Pairs Skating and Ice Dancing

Although skating is a solo sport, there is one exception: "pairs skating." Pairs skating is competitive in height, pain, and difficulty. It is often referred to as "the dancing" of ice skating. The sport is extremely difficult. The male partner has to be extremely strong and coordinated, and the female partner has to be exceptionally energetic and graceful. And the pair has to be perfectly synchronized. The male partner has to be able to execute jumps and turns, and the female partner has to be able to catch them and land them successfully. These pairs are judged for their artistry, this is especially true of冰上双人滑冰。They are also judged for the innovation of their choreography, how well they choose and interpret the music they play.

Men's and Women's Gymnastics

Men's and women's gymnastics is a "team sport." It's a team sport, so he or she has to practice, practice, practice. There are four events: floor exercise, pommel horse, rings, and parallel bars. Although men and women both compete in these four events, the men's floor exercise is a little different. They do more floor exercises than women, and they do more floor exercises than the women do. The men's floor exercise is a "team sport" and requires a lot of teamwork.

Three Individual Sports

74 Individual Sports 1 Nonfiction Reading Practice © EMC Corp.

Level 2

Words to Know list, Reading Selection, and Reading Comprehension questions

The Mighty Gymnasts

Gymnastics benefits kids in many ways. The physical ways might seem like stretching and working out in the upper and lower bodies. They possess reflexes, they have strong muscles, they have good coordination, and they have endurance. Some of them could become Olympic medal winners! Many of them could become professional athletes. Starting gymnastics at a young age can bring many benefits.

Danell Whitemarsh, Team USA Gymnast

Competitors have to be very strong to bring themselves up and over a high beam. This is a major challenge. Gymnasts balance and maintain strength and control. They have to be able to hold their body straight, and landing on soft mats is another challenge.

Gymnastics Men's and Women's Gymnastics

Todays in the U.S., gymnastics are very popular. Yet the U.S. continues to be the best country in the world. Gymnasts are popular because they are athletic and concentrated. Gymnastics can use both mind and body. Gymnasts are very good at what they do. They can teach us how to live a healthy and active life. Gymnastics can help us give children opportunities to learn and grow. They learn to communicate with others and work as a team. They learn to work together and respect others. And they learn to take risks and try new things.

Three Individual Sports

75 Individual Sports 2 Nonfiction Reading Practice © EMC Corp.

Level 3

Words to Know list, Reading Selection, and Reading Comprehension questions

The "Field" Events in Track and Field

Track and field competitions over 40 events—many more than any other Olympic sport. The events include running, jumping, throwing, and weightlifting. These will explore the jumping and throwing disciplines and the heptathlon. This section will explore the long jump and the high jump.

The Field Events in Track and Field

Track and field competitions over 40 events—many more than any other Olympic sport. The events include running, jumping, throwing, and weightlifting. These will explore the jumping and throwing disciplines and the heptathlon. This section will explore the long jump and the high jump.

Three Individual Sports

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Assemble the Unit

Reproduce and distribute one copy for each student:

- Visual Literacy page: Three Individual Sports, page 71
- Level 1, 2, or 3 Reading Selection and Reading Comprehension page and the corresponding Words to Know list
- Graphic Organizer of your choosing, provided on pages 180–186
- Writing Form: Athletes Who Fly, Spin, Tumble, Glide, and Sprint, page 72

Introduce the Topic

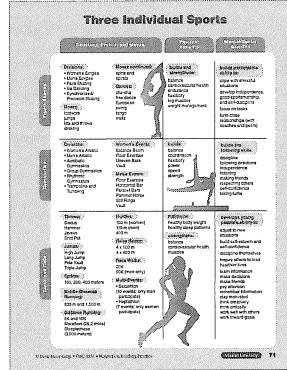
Read aloud and discuss the "Three Individual Sports" chart on the Visual Literacy page. Explain that sports like gymnastics, figure skating, and track and field are called "individual" because athletes perform primarily as individuals.

Read and Respond

Form leveled groups and review the Words to Know lists with each group of students. Instruct each group to read their selection individually, in pairs, or as a group. Have students complete the Reading Comprehension page for their selection.

Write About the Topic

Read aloud the leveled writing prompt for each group. Tell students to use the Graphic Organizer to plan their writing. Direct students to use their Writing Form to respond to their prompt.



Visual Literacy

Athletes Who Fly, Spin, Tumble, Glide, and Sprint

77 Writing Form Nonfiction Reading Practice © EMC Corp.

Writing Form

Three Individual Sports

Figure Skating

Gymnastics

Track and Field

Divisions, Events, and Moves

Physical Benefits

Mental/Social Benefits

Divisions:

- Women's Singles
- Men's Singles
- Pairs Skating
- Ice Dancing
- Synchronized/Precision Skating

Moves:

- footwork
- jumps
- lifts and throws
- stroking

Moves continued:

- spins and spirals

Dances:

- cha-cha
- free dance
- European swing
- tango
- waltz



builds and strengthens:

- balance
- cardiovascular health
- endurance
- flexibility
- leg muscles
- weight management

builds participants' ability to:

- cope with stressful situations
- develop independence, good sportsmanship, and self-discipline
- focus on tasks
- form close relationships (with coaches and peers)

Divisions:

- Women's Artistic
- Men's Artistic
- Acrobatic Gymnastics
- Group Gymnastics
- Rhythmic Gymnastics
- Trampoline and Tumbling

Women's Events:

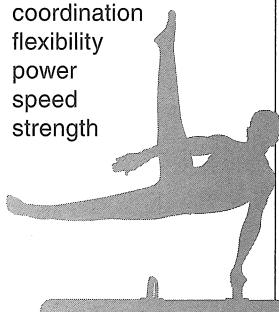
- Balance Beam
- Floor Exercise
- Uneven Bars
- Vault

Men's Events:

- Floor Exercise
- Horizontal Bar
- Parallel Bars
- Pommel Horse
- Still Rings
- Vault

builds:

- balance
- coordination
- flexibility
- power
- speed
- strength



builds the following skills:

- discipline
- following directions
- independence
- listening
- making friends
- respecting others
- self-confidence
- taking turns

Throws:

- Discus
- Hammer
- Javelin
- Shot Put

Jumps:

- High Jump
- Long Jump
- Pole Vault
- Triple Jump

Sprints:

- 100, 200, 400 meters

Middle-Distance Running:

- 800 m and 1,500 m

Distance Running:

- 5K and 10K
- Marathon (26.2 miles)
- Steeplechase (3,000 meters)

Hurdles:

- 100 m (women)
- 110 m (men)
- 400 m

Relay Races:

- 4 x 100 m
- 4 x 400 m

Race Walks:

- 20K
- 50K (men only)

Multi-Events:

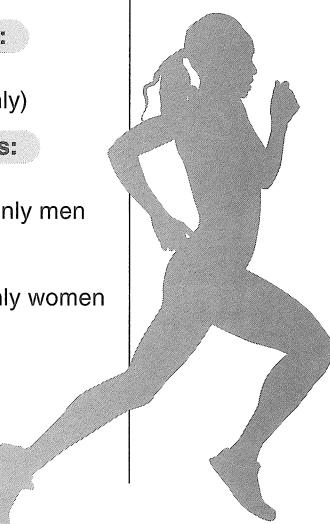
- Decathlon (10 events; only men participate)
- Heptathlon (7 events; only women participate)

maintains:

- healthy body weight
- healthy sleep patterns

strengthens:

- balance
- cardiovascular health
- muscles

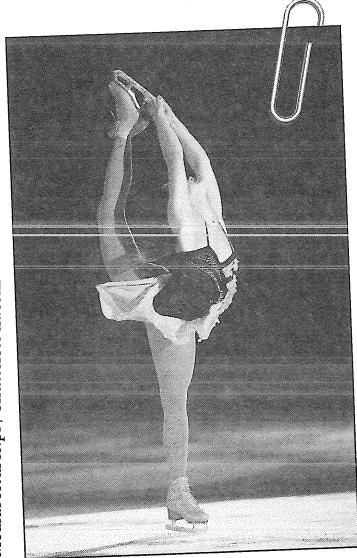


develops young people's ability to:

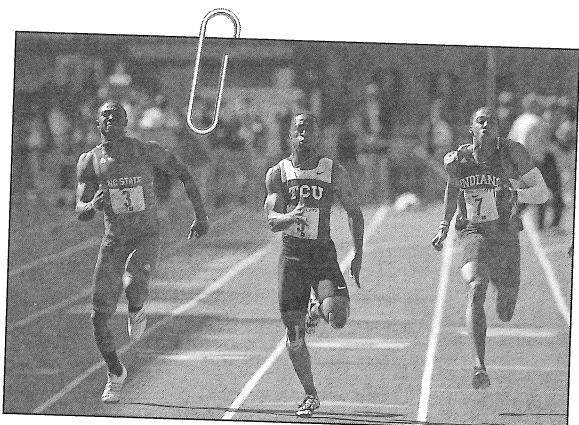
- adjust to new situations
- build self-esteem and self-confidence
- discipline themselves
- inspire others to lead healthier lives
- learn information
- make decisions
- make friends
- pay attention
- remember information
- stay motivated
- think creatively
- think critically
- work well with others
- work toward goals

Name _____

Athletes Who Fly, Spin, Tumble, Glide, and Sprint



Handwriting practice lines for the first section of the page.



Aspen Photo / Shutterstock.com

Words to Know

Time-Consuming! Expensive! Fun!

time-consuming

commitment

dedicated

custom-made

choreographers

sequences

“up-and-coming”

individual

exceptionally

agile

artistry

innovation

choreography

interpret

revolutions

“showstopper”

Words to Know

The Mighty Gymnasts

dedicated

resilient

aerobic

stellar

cardiovascular

ratio

aptly

endurance

posture

assets

evident/evidence

commitment

diligence

vaulting

agility

pommel horse

Words to Know

The “Field” Events in Track and Field

track and field

comprises

decathlon

heptathlon

dislodging

lunges

pole vault

object

catapult

fiberglass

arcs

momentum

discus

javelin

shaft

center of gravity

Individual Sports ■■

Individual Sports ■■■

Individual Sports ■■■■



Time-Consuming! Expensive! Fun!

If you have watched the Winter Olympics on TV, you have probably seen figure skaters gliding gracefully around ice rinks, jumping, twirling, and dancing to music. They make it look easy, but that's because they practice, practice—and practice some more! Skating is a huge commitment and is time-consuming for young athletes and their families. Dedicated skaters train for hours every day and travel far and wide to compete. It is also expensive. Skating coaches, club memberships, competition fees, dance lessons, costumes, custom-made skates, and choreographers do not come cheap! So why would anyone choose to become a skater?

Who Can Be a Successful Skater?

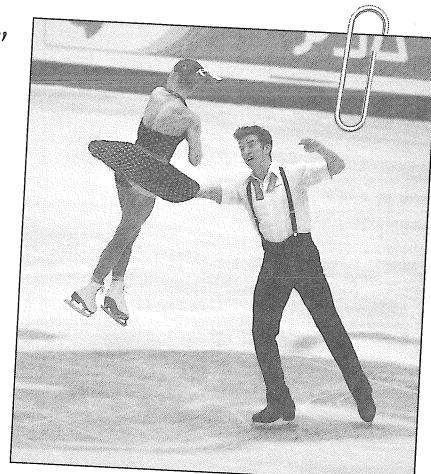
When coaches meet beginning skaters they ask themselves questions like these:

- Does this child love spending time on the ice?
- Is he or she naturally strong, flexible, and graceful?
- Does the child have the kind of brain that allows him or her to focus on learning and remembering complicated movement sequences?
- Is the child a “good sport” who can cope with disappointment?
- Does he or she have parents and other family members who are willing to put in the time and money necessary to support an “up-and-coming” skater?

The answers to most of these questions must be “yes.”

Pairs Skating and Ice Dancing

Although skating is called an “individual sport,” some skaters compete in boy/girl pairs. There are two competitive divisions for pairs. One is simply called “pairs” and the other is called “ice dancing.” Pairs skating is extremely athletic. It is known for its awe-inspiring lifts and throws. The male partner has to be exceptionally strong and agile to pick up his partner and literally throw her across the ice. And the female partner has to be exceptionally courageous and trusting! While all skaters are judged for “artistry,” this is especially true of ice dancers. These pairs are judged for flawless footwork and “moving as one.” They are also judged for the beauty and innovation of their choreography and how well they choose and interpret the music for their dance.



testing / Shutterstock.com

Men’s and Women’s Singles and Their Triple Jumps

A single skater has no partner, so he or she has to propel him- or herself through the air in moves called jumps. A jump can be single, double, or triple. In a triple jump, a skater completes three full revolutions in the air. A skater who can seem to effortlessly “land” triple jumps (and do everything else beautifully and flawlessly) is a “showstopper” at competitions.

Time-Consuming! Expensive! Fun!

Fill in the circle by the correct answer. Then answer questions 3, 4, and 5.

1. Which two words are synonyms?
 - (A) time-consuming, custom-made
 - (B) dedicated, agile
 - (C) artistry, innovation
 - (D) revolutions, rotations

 2. Why does the author ask the question at the end of paragraph 1?
 - (A) to emphasize what a huge commitment skating can be
 - (B) to emphasize how much fun it is to be a competitive skater
 - (C) to downplay how expensive it is to be a competitive skater
 - (D) to downplay the amount of practice it takes to be a good skater

 3. In your own words, explain why a skater's family must be dedicated to his or her career.
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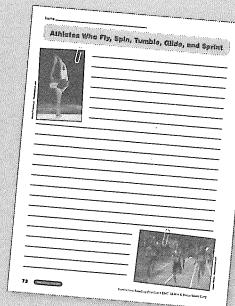
4. Tell which kind of figure skater you would most like to be, and explain why.
-
-

5. Imagine an 18-year-old figure skater who wins a medal at the Winter Olympics. Describe that person's probable strengths.
-
-

Write About the Topic

Use the Writing Form to write about what you read.

Write an argument for or against becoming a figure skater.
Use details from the text to support your argument.



The Mighty Gymnasts

Gymnastics benefits kids in many ways.

The physical ways might seem obvious. Dedicated gymnasts have powerful muscles in their upper and lower bodies. They possess resilient, flexible joints. Since they get plenty of aerobic exercise, they have stellar cardiovascular health. Gymnasts have an amazing strength-to-weight ratio. Many of them could aptly be nicknamed "Mighty Mouse." Starting gymnastics at a young age can help build a child's all-around muscle strength, endurance, and power. Gymnasts who train regularly develop lean, toned muscles. They have terrific balance and excellent posture. These assets can serve a person throughout life, even after his or her athletic career ends.

The mental and social benefits of gymnastics may seem less evident. Yet they, too, are numerous. Gymnastics training can help children sleep more soundly. It can teach them how to cope with hard times in a sensible "glass-half-full" manner. Gymnastics classes give children opportunities to interact with peers. They learn to communicate with coaches and other adult staffers at their gym. The sport also helps kids develop skills such as listening, following directions, taking turns, and respecting others. And besides, gymnastics can be a lot of fun!

There are other mental benefits as well. Gymnastics—especially at advanced levels—requires commitment and concentration. Gymnastics training can give kids real-world evidence that hard work and diligence pay off. Gymnasts can use their achievements to build confidence. They learn firsthand that commitment to a sport is worthwhile. (This is a lesson that can transfer over to other activities, such as practicing a musical instrument or doing homework promptly.) Finally, gymnastics rules and codes of conduct teach kids how important it is to obey safety rules and respect others' "boundaries."

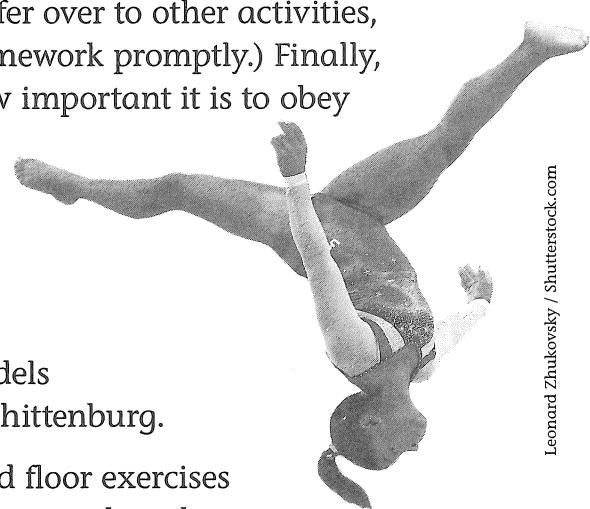
Comparing Men's and Women's Gymnastics

Today in the U.S., gymnastics seems more popular among girls than among boys. Yet the U.S. continues to produce Olympic-level gymnasts in the men's division. Boy gymnasts can look up to role models such as Danell Leyva, Alex Naddour, and Donnell Whittenburg.

Both men and women gymnasts do vaulting and floor exercises (tumbling feats set to music). These are the only two events they share. Only women perform on the balance beam and uneven bars. Only men exhibit their strength and agility on the horizontal bar, parallel bars, pommel horse, and still rings.



**Donnell Whittenburg,
Team USA, 2014
World Championships**



Leonard Zhukovsky / Shutterstock.com



**Simone Biles, 2016
Olympic Games**

The Mighty Gymnasts

Fill in the circle by the correct answer. Then answer questions 3, 4, and 5.

1. Which two words are synonyms?
 - (A) obvious, evident
 - (B) dedicated, stellar
 - (C) endurance, commitment
 - (D) diligence, agility

 2. "Mighty Mouse" might be a good nickname for a gymnast because _____.
 - (A) all dedicated gymnasts are very strong
 - (B) many gymnasts are small but very strong
 - (C) most gymnasts are shorter than other athletes
 - (D) the cartoon show "Mighty Mouse" is about gymnasts

 3. In paragraph 2, what does the author mean by "a sensible, 'glass-half-full' manner"?
-
-

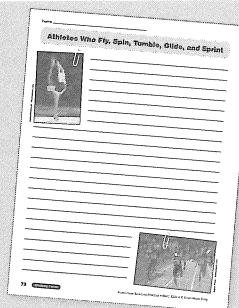
4. In paragraph 3, what does the author mean by "a lesson that can transfer over"?
-
-

5. How does the first three paragraphs' tone differ from that of the last two paragraphs?
-
-

Write About the Topic

Use the Writing Form to write about what you read.

What evidence can you find to support this statement?
"Gymnastics is a tough sport, but it produces great results."



The “Field” Events in Track and Field

Track and field comprises over 40 events—more than any other Olympic sport. The events fall into three categories: track (running); field (jumping and throwing); and multi-events (the decathlon and the heptathlon). This article will explore the jumping and throwing events.

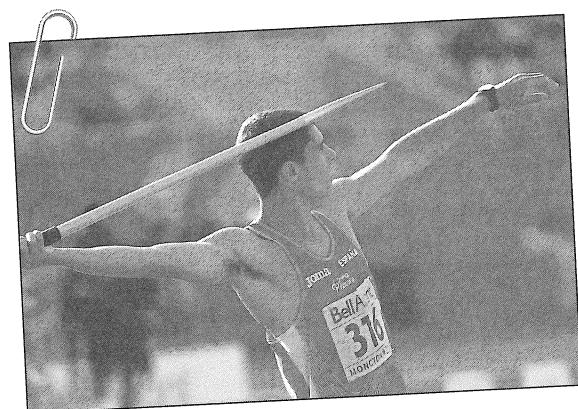
Competitors in the high jump attempt to fling themselves up and over a crossbar without dislodging it. The athlete must make the high-jump takeoff on one foot, not two. The athlete lunges up to the crossbar almost straight on, and then twists around so that his back is facing the bar before thrusting up and over and landing on well-padded foam-rubber mats.

The pole vault has the same object as the high jump: the athlete must fling herself up and over a crossbar without knocking it down; however, in this event she uses a long pole to help catapult her body up and over. Most athletes today use fiberglass poles; these are both strong and highly flexible. A vaulter commonly approaches the bar by running about 130 feet while holding her pole almost parallel to the ground. She then plants the pole's end in a sunken box below the crossbar and grasps the pole as it catapults her over. In midflight she twists her body and arcs herself over the bar while releasing the pole.

In the long jump, the jumper runs at full speed down a runway to a takeoff board—the board is the point where the athlete must leave the ground and fly through the air to land in a sand-filled pit. In the triple jump, when the athlete reaches the board, he takes off and lands on the same foot; next he takes a huge step while trying to maintain momentum, lands on his opposite foot, and finally soars into the pit with a third jump, landing on both feet. The object of both events, of course, is to make a longer jump than anyone else.

There are four throwing events.

The object in each event is thrown using a different technique. The discus, shaped like a plate, is usually made of wood with a metal rim. A men's discus weighs 4.4 pounds and a women's weighs exactly half of that. The hammer is a metal ball with a steel wire and handle attached. In the men's event, this missile weighs 16 pounds; the women's weighs 8.8 pounds. The javelin is a metal-tipped spear with a shaft that is longer than the athlete is tall; the contestant grips the shaft at its center of gravity. The shot put is a metal ball. Weights are the same as the hammer. In each event, the athlete who throws the object the farthest while using correct technique is the winner.



A competitor throwing a javelin.

Jamie Roach / Shutterstock.com