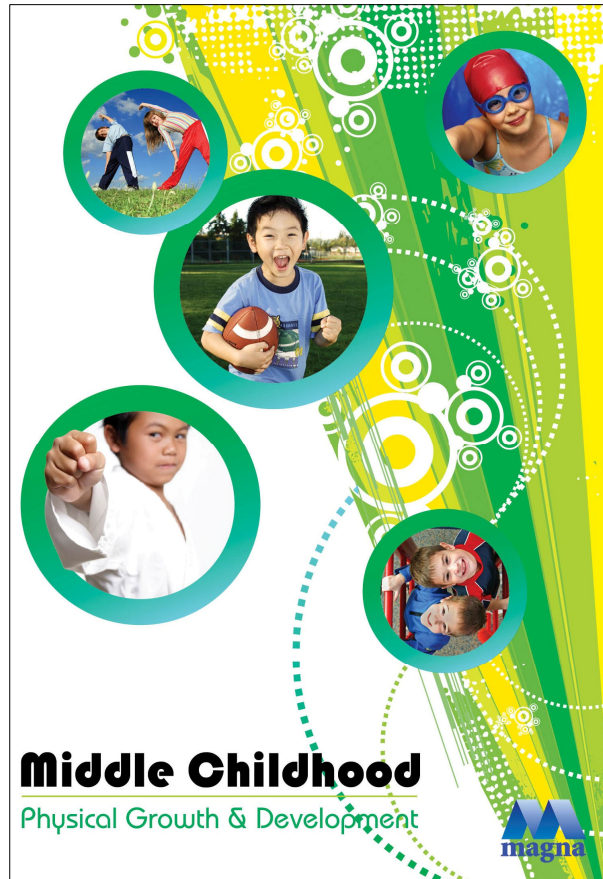


Middle Childhood: Physical Growth & Development



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Middle Childhood: Physical Development

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Using This Guide/Using This Video

- Before watching this video, ask students to recall what games or kinds of games they played in their childhood (ages 6-12). Recount some of the characteristics of those play experiences.
- Use questions and activities for class discussion, small group activity, homework, or assessment.

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The Program

Summary

Middle childhood is the stage of development between the ages of 6 and 12 years. The overall development of children includes their physical, cognitive, social and emotional growth, which occur simultaneously and have affects on each other. In this video, we focus on children's physical growth and development.

In this video we will examine how children acquire many new gross and fine motor skills as they reach physical milestones. We'll learn how the reduction of outdoor activities and the increase of electronic media affect physical development. We will take a look at the importance and impact of good nutrition and adequate amounts of sleep on a child's physical development. Finally, we will learn how teachers can support children with challenging physical conditions in the classroom.

Key points:

- Middle childhood occurs between the ages of 6 and 12 years; children experience increase in height and weight, along with the loss of baby teeth.
- Gross motor abilities improve in middle childhood due to increased muscle strength and coordination, and around age 8, children are able to participate in such play as organized sports.
- Fine motor abilities also improve in this stage due to myelination, which causes messages to travel through the brain at a quicker speed.
- Asthma and allergies are the most common middle childhood illnesses.
- Good nutrition provides the fuel for the middle childhood child to grow, and it is linked to positive cognitive, social and emotional growth as well.
- 15% of U.S. children (ages 6 to 11) are obese.
- Children between the ages of 5 and 12 need 10 to 11 hours of sleep each day due to the biological processes that occur during the stages of sleep.
- There are many middle childhood children who have special needs including physical conditions and sensory conditions. When teachers make accommodations within the classroom setting these children can learn and grow alongside typically developing peers.

Physical Growth

Heredity, culture, gender, nutrition and other factors contribute to the wide variations seen in the physical growth and development of children in middle childhood. Children experience an increase in their height and weight (with the loss of baby fat). They also experience the loss of baby teeth and the emergence of permanent adult teeth. These changes along with the beginnings of puberty comprise the significant milestones for school-aged children.

Gross Motor Skills

Gross motor skills require the use of large muscle groups in the arms and legs, as well as strength and stamina. Gross motor abilities are skills such as running, jumping and climbing.

Gross motor abilities improve in middle childhood due to increased muscle coordination. Children can now skip, stop and change directions while running and throw a ball with increased accuracy.

There are common elements to motor play at this stage of development. Children participate in turn-taking, organization, role assignments, realism and rough and tumble play. Children's reaction time also improves during this stage. This improved coordination, combined with their cognitive and social development helps them to engage in games with rules and by age eight, most children have the skills to participate in team sports.

Fine Motor Skills

Fine motor skills require the ability to coordinate small muscle groups in the arms, hands, and fingers, and these skills develop a great deal during middle childhood. Activities such as improved drawing abilities, typing on a keyboard, and using scissors are mastered due to improved fine motor skills.

In addition to the stronger muscles of a middle childhood child, the development of their brain also increases their fine motor abilities. Between the ages of 6 and 8, the amount of protective insulation that surrounds parts of nerve cells (myelin) increases, causing the rate of electrical impulses traveling through the brain to speed up (myelination). Through this process messages from the brain can reach muscles quicker and exert more control over them.

Health

The increased mobility, independence, and immature judgment skills of the middle childhood child can lead to more accidents and injuries. Unintentional injury is the leading cause of death for children under the age of 14. As children learn to ride bikes, rollerblade, and skateboard, it is important to remember that many injuries can be prevented by having children ride in the backseat of the car and wearing protective gear while active.

The most common childhood illnesses are asthma and allergies. Some asthma triggers are stress, exertion, airborne irritants, and allergic reactions. More than 15 million children in the U.S. suffer from asthma. The causes are unclear but some possibilities that contribute to the illness are air pollution, lack of accurate diagnosis, higher levels of poverty, and hazardous environmental conditions.

Nutrition And Fitness

Proper nutrition and exercise are crucial to a child's growth and development at this stage. Good nutrition provides fuel for physical growth, and is linked to positive cognitive, social, and emotional development as well.

Obesity is increasing in children ages 6 to 11 years old, and 15% of U.S. children are now obese. Obesity occurs when body weight is more than 20% above the average for a person based on age and height. This imbalance of weight can result from such factors as genetics, behavior, and environment. Children who become obese are more likely to be overweight as adults. They increase their risk of developing heart disease and diabetes. Obese children also report being more depressed and exhibit more behavior problems than peers. Obesity in children is also linked to low self-esteem and isolation from peer groups.

The benefits of regular exercise for children are stronger muscles and bones, a leaner body, and a lowered risk for type 2 diabetes. Parents and caregivers should serve as role models for a healthy diet and exercise.

Sleep

Children between the ages of 5 and 12 need 10 to 11 hours of sleep each day due to the biological processes that occur during the stages of sleep.

During Non-Rapid Eye Movement, energy is restored, tissue growth and repair occur, and blood supply to the muscles increases. During Rapid Eye Movement, the body becomes very still and the brain becomes active and dreaming occurs.

Inadequate amounts of sleep can cause mood swings, impair cognitive functioning and concentration, and can lead to some behavioral problems. Lack of sleep can also weaken the immune system as well as lead to weight gain.

Special Needs

Some challenging physical conditions that children may have include cerebral palsy, spina bifida, and muscular dystrophy. Children with these conditions have limitations to their movement, and may even require a wheelchair to get around. Teachers can make accommodations in the classroom to help the students with special needs adapt, as well as facilitate interaction between these students with typically developing peers.

Some children have sensory difficulties such as visual, auditory, and speech impairments. A visual impairment is a difficulty seeing that includes blindness or partial sightedness. Myopia (nearsightedness) is the most common vision problem in middle school, and 25% of children need glasses for myopia.

Auditory impairment is a special need that involves the loss of hearing or some aspect of hearing.

3 to 5% of children in middle childhood experience speech difficulties. A speech impairment is defined as speech that calls attention to itself in comparison to that of others, interferes with communication, or causes the speaker difficulty in adapting to their environment. The most common speech impairment is stuttering, which is a substantial disruption in the rhythm and fluency in speech.

Classroom teachers who work to accommodate students with special needs should provide the latest instructional accommodations, materials, and technology to best help the child learn and adapt with typically developing peers.

Review

Middle childhood is a relatively stable stage of physical growth and development, but there are some milestones that do occur within this time. Increased body awareness and improved gross and fine motor skills help prepare children for even adult abilities.

Exercise and good nutrition are important factors in growth and development, and over-nutrition and lack of activity promote childhood obesity rather than health.

It is also important for children to get the adequate amount of sleep needed, despite busy schedules.

Many school-aged children do have special needs that require support from their teachers and accommodations within the classroom.

Interactive Elements

Questions For Discussion

1. What gross and fine motor skills did you gain during middle childhood that directly prepared you for adolescence and adulthood? Which skills did you gain that you didn't use after middle childhood?

Students should touch upon the types of skills they could accomplish which include being able to participate in organized sports, playing musical instruments. Students may also talk about how they could do things at a playground that they cannot do now.

2. Why is dental health so important during middle childhood?

Students can talk about the importance of overall hygienic health, how it affects a child's appearance, the loss of baby teeth and emergence of permanent teeth, and how it can affect the ability to speak and chew.

3. Is the onset age of puberty changing?

Students may find that children are starting puberty at odd ages, or that there are many exceptions to the rule. Students can discuss what might cause such changes, such as diet, lifestyle, cultural influences, or even evolution. Think about life expectancy now and 100 years ago and other such issues.

4. What are some ways to treat childhood obesity?

Students can talk about some healthy methods of treating obesity including family based counseling that focuses on changing behaviors, school-based nutrition programs, positive reinforcement for time spent being physically active, and positive reinforcement for making healthy food choices.

Suggested Activities

1. Give students a disability to ponder, such as vision or auditory loss, learning disabilities, or physical disability. Then give them a lesson they have to teach and ask them how they would adapt the lesson to accommodate the disability they have.
2. Have students create an interactive school campaign to fight childhood obesity.

Research Project

Research some accommodations made in the classroom for children with physical disabilities, vision impairments, auditory impairments, speech impairments, and learning disabilities. Pay attention to new technology and specific materials that meet their needs.

Middle Childhood: Physical Growth & Development

Fill-In-The-Blank

Fill in the blanks with the correct words from the bank at the bottom of the page.

An increase in _____ and _____ along with the loss of baby _____ mark significant milestones for school-aged children. The onset of _____ usually begins during the ages of 8-14 for girls and they develop breasts and pubic hair with _____ usually following about two years after onset. Common elements of motor play include _____, organization, role assignments, _____, and _____. _____ skills require the coordination of small muscle groups in the arms, hands, and fingers. The leading cause of death for children under the age of 14 is _____. Good _____ provides the fuel for physical growth, but it has also been linked to positive _____, _____, and emotional development.

During _____, energy is restored, tissue growth and repair occur, and blood supply to the muscles increases. During _____, the body becomes very still and the brain becomes active and dreaming occurs. _____ is the most common speech impairment. It is a substantial disruption in the rhythm and fluency in speech.

Word Bank:

weight	social	stuttering	Rapid Eye Movement
turn-taking	height	cognitive	rough and tumble play
teeth	fine motor	puberty	Non-Rapid Eye Movement
nutrition	realism	menarche	unintentional injury

Middle Childhood: Physical Growth & Development

Fill-In-The-Blank Answer Key

Fill in the blanks with the correct words from the bank at the bottom of the page.

An increase in **height** and **weight** along with the loss of baby **teeth** mark significant milestones for school-aged children. The onset of **puberty** usually begins during the ages of 8-14 for girls and they develop breasts and pubic hair with **menarche** usually following about two years after onset. Common elements of motor play include **turn-taking**, organization, role assignments, **realism**, and **rough and tumble play**. **Fine motor** skills require the coordination of small muscle groups in the arms, hands, and fingers. The leading cause of death for children under the age of 14 is **unintentional injury**. Good **nutrition** provides the fuel for physical growth, but it has also been linked to positive **cognitive**, **social**, and emotional development. During **Non-Rapid Eye Movement**, energy is restored, tissue growth and repair occur, and blood supply to the muscles increases. During **Rapid Eye Movement**, the body becomes very still and the brain becomes active and dreaming occurs. **Stuttering** is the most common speech impairment. It is a substantial disruption in the rhythm and fluency in speech.

Word Bank:

weight	social	stuttering	Rapid Eye Movement
turn-taking	height	cognitive	rough and tumble play
teeth	fine motor	puberty	Non-Rapid Eye Movement
nutrition	realism	menarche	unintentional injury

Middle Childhood: Physical Growth & Development

Multiple Choice Worksheet

Circle the best available answer for each of the following:

- 1) Boys tend to have more _____, and girls tend to have more _____:
- a) fun, problems
 - b) muscle, body fat
 - c) critical thinking skills, common sense
 - d) friends, enemies
- 2) All of these are physical milestones EXCEPT:
- a) losing baby teeth
 - b) increased height
 - c) increased weight
 - d) thinking faster
- 3) Gross motor skills allow children to:
- a) use scissors
 - b) play a musical instrument
 - c) type on a keyboard
 - d) change direction while running
- 4) The most common middle childhood illness is:
- a) asthma
 - b) diabetes
 - c) tuberculosis
 - d) cancer
- 5) This percent of U.S. children are obese:
- a) 25%
 - b) 15%
 - c) 10%
 - d) 35%
- 6) To be diagnosed obese, a person must weigh this much more than the average person:
- a) 50%
 - b) 15%
 - c) 30%
 - d) 20%
- 7) All of these are benefits of exercise in middle childhood EXCEPT:
- a) leaner body
 - b) less risk for diabetes
 - c) strong muscles and bones
 - d) healthy smile
- 8) Children between the age of 5 and 12 need this many hours of sleep a night:
- a) 8
 - b) 9-10
 - c) 10-11
 - d) 11-12
- 9) The most common vision problem in middle school is:
- a) farsightedness
 - b) myopia
 - c) astigmatism
 - d) color blindness
- 10) Inadequate amounts of sleep can cause all of these EXCEPT:
- a) a weak immune system
 - b) mood swings
 - c) bad skin
 - d) weight gain

Middle Childhood: Physical Growth & Development

Multiple Choice Worksheet Answer Key

Circle the best available answer for each of the following:

- 1) Boys tend to have more _____, and girls tend to have more _____:
- a) fun, problems
 - b) muscle, body fat**
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- a) a weak immune system
 - b) mood swings
 - c) bad skin**
 - d) weight gain

Middle Childhood: Physical Growth & Development

Matching Quiz

Match the words in the first column to the best available answer in the second column.

- | | |
|--|-------------------------|
| _____ This is the most common speech impairment in middle childhood | 1)baby teeth |
| _____ Stage of development that occurs between the ages of 6 and 12 | 2)rough and tumble play |
| _____ Children lose about 4 of these a year | 3)menarche |
| _____ Running, jumping, climbing, skipping | 4)spina bifida |
| _____ Form of motor play that includes play fighting, wrestling, and chasing | 5)stuttering |
| _____ Protective insulation that surrounds nerve cells | 6)gross motor abilities |
| _____ Example of a physical disability that can impair movement | 7) myelin |
| _____ The name of the first menstrual period | 8)middle childhood |

Middle Childhood: Physical Development

Matching Quiz Answer Key

Match the words in the first column to the best available answer in the second column.

- 5) *stuttering*** This is the most common speech impairment in middle childhood
- 8) *middle childhood*** Stage of development that occurs between the ages of 6 and 12
- 1) *baby teeth*** Children lose about 4 of these a year
- 6) *gross motor abilities*** Running, jumping, climbing, skipping
- 2) *rough and tumble play*** Form of motor play that includes play fighting, wrestling, and chasing
- 7) *myelin*** Protective insulation that surrounds nerve cells
- 4) *spina bifida*** Example of a physical disability that can impair movement
- 3) *menarche*** The name of the first menstrual period

Glossary

Auditory Impairment

Special need that involves the loss of hearing or some aspect of hearing

Fine Motor Development

The coordination of small muscle groups in the arms, hand and fingers used to complete tasks

Gross Motor Development

Skills like running, jumping, climbing, that require the use of large muscle groups in the arms and legs, as well as strength and stamina

Menarche

The first menstrual period

Myelin

A protective insulation that surrounds parts of nerve cells and speeds up the rate at which electrical impulses travel through the brain

Myopia

The visual impairment of nearsightedness

Non-Rapid Eye Movement

Stage of sleep where energy is restored, tissue growth and repair occur, and blood supply to the muscles increases

Obesity

Occurs when body weight is more than 20% above the average for a person for a given age and height

Physical Milestones

Rapid Eye Movement

Stage of sleep where the body becomes very still and the brain becomes active and dreaming occurs

Rough And Tumble Play

A form of motor play that includes play fighting, wrestling, and chasing peers

Speech Impairment

Speech that calls attention to itself in comparison to that of others, interferes with communication, or causes the speaker difficulty in adapting to his environment

Stuttering

A substantial disruption in the rhythm and fluency in speech

Visual Impairment

A difficulty seeing that may include blindness or partial sightedness

For More Information...

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