

holes essential human anatomy and physiology

holes essential human anatomy and physiology serve as critical components that facilitate various functions within the human body. These voids, cavities, and openings play a significant role in maintaining the integrity and functionality of organs and systems. Understanding these anatomical features enhances our knowledge of human physiology, as they are integral to processes like circulation, respiration, and digestion. This article will explore various types of holes found in human anatomy, their physiological significance, and how they contribute to overall health. We will also delve into specific examples, such as the heart's chambers, the respiratory system's airways, and anatomical features like the foramen and sinuses.

- Introduction to Holes in Human Anatomy
- Types of Holes in Human Anatomy
- Physiological Functions of Anatomical Holes
- Specific Examples of Significant Holes
- Implications of Holes on Human Health
- Conclusion

Introduction to Holes in Human Anatomy

The human body is a complex structure composed of various systems, each reliant on specific anatomical features for functionality. Holes, cavities, or openings within the body serve multiple purposes, ranging from protecting vital organs to facilitating essential physiological processes. These anatomical features can be classified into different categories based on their location and function.

Understanding the types of holes in human anatomy provides insight into how various systems work in tandem to maintain homeostasis. For example, the holes in the skull not only protect the brain but also allow for the passage of nerves and blood vessels. Similarly, the openings in the respiratory system are crucial for gas exchange, while those in the digestive system enable the movement of food and waste.

Types of Holes in Human Anatomy

Holes in human anatomy can be categorized based on their functions and locations. Below are some primary types:

1. Natural Openings

Natural openings are anatomical features that occur naturally in the body. They include:

- **Foramina:** These are small holes in bones that allow nerves and blood vessels to pass through.
- **Fissures:** Narrow openings between bones, often found in the skull.
- **Sinuses:** Air-filled cavities within certain bones, such as the maxillary and frontal sinuses.
- **Orifices:** Openings that allow for the passage of substances, such as the mouth and anus.

2. Artificial Openings

Artificial openings are created surgically or through trauma. They may include:

- **Stomas:** Surgically created openings that connect an internal organ to the outside of the body, often used in colostomy procedures.
- **Incisions:** Surgical cuts made to access internal structures.

Physiological Functions of Anatomical Holes

The various holes in human anatomy serve essential physiological functions. They facilitate critical processes necessary for survival and health.

1. Circulation

Holes play a vital role in the circulatory system. For instance:

- **Heart Valves:** Openings between heart chambers that regulate blood flow.
- **Capillaries:** Microscopic holes in blood vessels that allow for the exchange of oxygen, nutrients, and waste products between blood and tissues.

2. Respiration

The respiratory system relies on specific openings for gas exchange:

- **Nasal Passages:** Openings that filter, warm, and humidify incoming air.
- **Alveoli:** Tiny air sacs in the lungs where oxygen and carbon dioxide are exchanged.

3. Digestion

In the digestive system, holes are crucial for processing food:

- **Mouth:** The entry point for food, where digestion begins.
- **Anal Canal:** The opening through which waste is expelled from the body.

Specific Examples of Significant Holes

Understanding specific examples of anatomical holes can provide further insight into their importance.

1. Foramen Magnum

The foramen magnum is a large opening at the base of the skull, allowing the spinal cord to connect to the brain. Its size and position are critical for the central nervous system's protection and function.

2. Intervertebral Foramina

These openings between adjacent vertebrae allow spinal nerves to exit the spinal column. They are essential for transmitting signals between the brain and the rest of the body.

3. Sinuses

Sinuses are air-filled cavities within the skull that help in lightening the weight of the head and enhancing voice resonance. Additionally, they play a role in mucous production, helping to trap pathogens and debris.

Implications of Holes on Human Health

The health of these anatomical openings can significantly impact overall well-being. Various conditions can affect the function of these holes, leading to health issues.

1. Blockages

Blockages in natural openings can lead to significant health concerns. For example, nasal blockages can cause respiratory issues, while blocked arteries can lead to cardiovascular diseases.

2. Infections

Infections can occur in areas with anatomical holes, such as sinus infections that arise from inflammation in the sinus cavities.

3. Structural Anomalies

Anomalies in the formation of holes, such as congenital defects, can lead to complications in circulation, respiration, or digestion.

Conclusion

Holes are essential components of human anatomy and physiology, playing crucial roles in various bodily functions. From facilitating circulation and respiration to aiding digestion, these openings are integral to maintaining health and homeostasis. Understanding the significance of these anatomical features enhances our knowledge of the human body and the importance of maintaining their health. Awareness of potential issues related to these holes can lead to better health outcomes and proactive medical care.

Q: What are the main types of holes in human anatomy?

A: The main types of holes in human anatomy include natural openings such as foramina, fissures, sinuses, and orifices, as well as artificial openings created through surgical procedures, like stomas and incisions.

Q: How do holes in the heart function?

A: Holes in the heart, such as the openings between heart chambers and valves, regulate blood flow throughout the circulatory system, ensuring that oxygen-rich blood is delivered to tissues while deoxygenated blood is sent to the lungs for oxygenation.

Q: Why are sinuses important in human anatomy?

A: Sinuses are important because they help lighten the weight of the head, enhance voice resonance, and play a role in mucous production, which traps pathogens and debris, thus protecting the respiratory system.

Q: What health issues can arise from blockages in anatomical holes?

A: Blockages in anatomical holes can lead to significant health issues, such as respiratory problems from nasal blockages, cardiovascular diseases from blocked arteries, and digestive problems from obstructions in the gastrointestinal tract.

Q: How do artificially created openings affect the body?

A: Artificially created openings, like stomas, can significantly impact bodily functions by rerouting the normal flow of waste or other substances, necessitating ongoing care and adaptation for the individual.

Q: What is the role of intervertebral foramina?

A: The intervertebral foramina are openings between adjacent vertebrae that allow spinal nerves to exit the spinal column, playing a crucial role in transmitting signals between the brain and the rest of the body.

Q: Can infections occur in anatomical holes?

A: Yes, infections can occur in areas with anatomical holes, such as sinus infections (sinusitis) that arise due to inflammation in the sinus cavities, leading to symptoms like pain, pressure, and congestion.

Q: How does the body maintain the health of anatomical holes?

A: The body maintains the health of anatomical holes through various mechanisms, including immune responses to prevent infection, natural drainage systems to clear blockages, and structural support from surrounding tissues.

Q: What are the physiological functions of holes in the respiratory system?

A: Holes in the respiratory system, such as nasal passages and alveoli, facilitate gas exchange by allowing air to enter the lungs, where oxygen is absorbed into the bloodstream and carbon dioxide is expelled.

Q: What implications do structural anomalies in holes have on health?

A: Structural anomalies in holes, such as congenital defects, can lead to complications in circulation, respiration, or digestion, often requiring medical intervention to correct or manage the issues effectively.

[Holes Essential Human Anatomy And Physiology](#)

Find other PDF articles:

<http://www.speargroupllc.com/gacor1-26/Book?ID=ERt91-1241&title=the-beast-that-shouted-love-at-the-heart-of-the-world-free.pdf>

holes essential human anatomy and physiology: *Hole's Essentials of Human Anatomy & Physiology* Charles J. Welsh, 2021

holes essential human anatomy and physiology: *Hole's Essentials of Human Anatomy & Physiology (Reinforced NASTA Binding for Secondary Market)* David Shier, Jackie Butler, Ricki Lewis, 2008-01-22 Makes difficult concepts relevant to students with clinical applications.

holes essential human anatomy and physiology: Hole's Human Anatomy & Physiology David Shier, Jackie Butler, Ricki Lewis, 2018 Assuming no prior science knowledge, this book supports main concepts with clinical applications, making them more relevant to students pursuing careers in the allied health field.

holes essential human anatomy and physiology: Hole's Essentials of Human Anatomy & Physiology David Shier, Jackie Butler, Ricki Lewis, 2008-01-09 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The unparalleled teaching system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology.

holes essential human anatomy and physiology: Loose Leaf for Holes Essentials Human Anatomy & Physiology David Shier, John Hole, Jackie Butler, Ricki Lewis, 2017-02-09 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The learn, practice, and access system is used throughout the textbook and digital. Learning Outcomes at the beginning of each chapter set the stage for what students will learn, Practice questions at the end of each major section help check their recall on what they just read, and Assess end of chapter resources help students confirm their accurate recall of what they just learned and practiced. The learn, practice, and assess system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology.

holes essential human anatomy and physiology: Hole's Essentials of Human Anatomy & Physiology Ricki Lewis, Dr., David N. Shier, Dr., Jackie L. Butler, 2017-02-16 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The learn, practice, and access system is used throughout the textbook and digital. Learning Outcomes at the beginning of each chapter set the stage for what students will learn, Practice questions at the end of each major section help check their recall on what they just read, and Assess end of chapter resources help students confirm their accurate recall of what they just learned and practiced. The learn, practice, and assess system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology.

holes essential human anatomy and physiology: Hole's Essentials of Human Anatomy and Physiology David Shier, Jackie Butler, Ricki Lewis, 2003 Designed for the one-semester anatomy and physiology course, This volume assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students.

holes essential human anatomy and physiology: Loose Leaf for Hole's Human Anatomy & Physiology Charles Welsh, Cynthia Prentice-Craver, 2021-01-13 Perfect for introductory level students, Hole's Human Anatomy and Physiology assumes no prior science knowledge by focusing on the fundamentals. This new edition updates a great A&P classic, while offering greater efficiencies to the user including the tried and true Learn, Practice, Assess method throughout the text. The 16th edition focuses on helping students master core themes in anatomy and physiology, which are distilled down into key concepts and underlying mechanisms. A new author team who is active in the classroom brings career relevance and more concise language, while updated and enhanced figures provide clarity.

holes essential human anatomy and physiology: Shier, Hole's Essentials of Human Anatomy & Physiology © 2015, 12e, Student Edition (Reinforced Binding) Jackie L. Butler, Ricki Lewis, Dr.,

David N. Shier, Dr., 2014-01-06 Includes print student edition

holes essential human anatomy and physiology: Hole's Essentials of Human Anatomy & Physiology Charles Welsh, 2020-01-27 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The Learn, Practice, and Access system is used throughout the text and digital content for immediate application. Learning outcomes begin the chapter and set the stage for what students will learn, Practice questions conclude each major section and help students recall the information they've consumed, and Assess end-of-chapter resources allow students to confirm their accurate recall of what they learned and practiced. The learn, practice, and assess system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology.

holes essential human anatomy and physiology: LABORATORY MANUAL FOR HOLES ESSENTIALS OF HUMAN ANATOMY & PHYSIOLOGY Terry R. Martin, 2017-01-31 This full-color manual is designed for students with minimal backgrounds in science who are pursuing careers in allied health fields. Designed to support the thirteenth edition of Hole's Essentials of Human A&P by Shier, Butler, and Lewis, this manual contains 49 laboratory exercises and reports, which are integrated closely to the textbook. Exercises are planned to illustrate and review the anatomical and physiological facts and principles presented in the text and to help students investigate some of these ideas in greater detail.

holes essential human anatomy and physiology: Loose Leaf Version for Hole's Essentials of Human Anatomy and Physiology David N. Shier, Dr., Ricki Lewis, Dr., Jackie L. Butler, 2014-04-08 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The unparalleled teaching system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology. Users who purchase Connect Plus receive access to the full online ebook version of the textbook.

holes essential human anatomy and physiology: Hole's Essentials of Human Anatomy and Physiology David N. Shier, David Shier, Jackie Butler, Ricki Lewis, 2004-12 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The unparalleled teaching system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology.

holes essential human anatomy and physiology: Hole's Essential Human Anatomy and Physiology Terry R. Martin, 1999-05 This manual, designed to supplement Hole's Essentials of Human Anatomy and Physiology 7th edition, contains 47 laboratory exercises and reports, which integrate closely to the textbook. Exercises illustrate and review the anatomical and physiological facts and principles presented in the text and help students investigate some of these ideas in more detail.

holes essential human anatomy and physiology: *Loose Leaf Version for Hole's Essentials of Human Anatomy and Physiology* David Shier, Jackie Butler, Ricki Lewis, 2011-01-04 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The unparalleled teaching system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology.

holes essential human anatomy and physiology: HOLE'S ESSENTIALS OF HUMAN ANATOMY & PHYSIOLOGY HS 2nd Edition Charles Welsh, 2020

holes essential human anatomy and physiology: Shier, Hole's Human Anatomy and

Physiology © 2016, 14e, Student Edition, Reinforced Binding Ricki Lewis, Dr., David N. Shier, Dr., Jackie L. Butler, 2015-01-05

holes essential human anatomy and physiology: Loose Leaf Version for Hole's Essentials of Human Anatomy and Physiology with Lab Manual David N. Shier, Dr., Jackie L. Butler, Ricki Lewis, Dr., 2014-04-24

holes essential human anatomy and physiology: Loose Leaf for Hole's Essentials of Human Anatomy & Physiology Charles Welsh, 2020-01-21 Designed for the one-semester anatomy and physiology course, Hole's Essentials of Human Anatomy and Physiology assumes no prior science knowledge and supports core topics with clinical applications, making difficult concepts relevant to students pursuing careers in the allied health field. The Learn, Practice, and Access system is used throughout the text and digital content for immediate application. Learning outcomes begin the chapter and set the stage for what students will learn, Practice questions conclude each major section and help students recall the information they've consumed, and Assess end-of-chapter resources allow students to confirm their accurate recall of what they learned and practiced. The learn, practice, and assess system is highly effective in providing students with a solid understanding of the important concepts in anatomy and physiology.

holes essential human anatomy and physiology: *Hole's Essentials of Human Anatomy and Physiology* McGraw-Hill Education, 2014

Related to holes essential human anatomy and physiology

Holes (film) - Wikipedia Holes is a 2003 American comedy film directed by Andrew Davis and written by Louis Sachar, based on his 1998 novel. The film stars Sigourney Weaver, Jon Voight, Patricia Arquette, Tim

Holes (2003) - IMDb Holes: Directed by Andrew Davis. With Sigourney Weaver, Jon Voight, Tim Blake Nelson, Shia LaBeouf. A wrongfully convicted boy is sent to a brutal desert detention camp where he joins

Holes by Louis Sachar Plot Summary | LitCharts Get all the key plot points of Louis Sachar's Holes on one page. From the creators of SparkNotes

Holes: Full Book Summary | SparkNotes A short summary of Louis Sachar's Holes. This free synopsis covers all the crucial plot points of Holes

Holes | Disney Wiki | Fandom Holes is a 2003 live-action film directed by Andrew Davis and written by Louis Sachar, with the movie being based on his novel of the same name, starring Sigourney Weaver as Louise

Holes Summary and Study Guide | SuperSummary Louis Sachar's 1998 children's mystery novel, Holes, tells the story of Stanley Yelnats, a 14-year-old boy accused of stealing a pair of shoes. A judge sentences him to 18 months in a camp,

Holes streaming: where to watch movie online? Find out how and where to watch "Holes" online on Netflix, Prime Video, and Disney+ today - including 4K and free options

Watch Holes (2003) - Free Movies | Tubi A wrongfully convicted boy is sent to a harsh desert camp, where he joins others in digging endless holes, uncovering secrets and seeking redemption

Watch Holes | Netflix At a Texas detention camp, delinquents are forced to dig holes every day as a character-building exercise. But what's the real reason for the digging? Watch trailers & learn more

Watch Holes - Disney+ Once there, he's thrown headlong into the adventure of his life when he and his colorful campmates—Squid, Armpit, Zigzag, Magnet, X-Ray and Zero—must dig a hole a day to keep

Holes (film) - Wikipedia Holes is a 2003 American comedy film directed by Andrew Davis and written by Louis Sachar, based on his 1998 novel. The film stars Sigourney Weaver, Jon Voight, Patricia Arquette, Tim

Holes (2003) - IMDb Holes: Directed by Andrew Davis. With Sigourney Weaver, Jon Voight, Tim Blake Nelson, Shia LaBeouf. A wrongfully convicted boy is sent to a brutal desert detention camp

where he joins

Holes by Louis Sachar Plot Summary | LitCharts Get all the key plot points of Louis Sachar's Holes on one page. From the creators of SparkNotes

Holes: Full Book Summary | SparkNotes A short summary of Louis Sachar's Holes. This free synopsis covers all the crucial plot points of Holes

Holes | Disney Wiki | Fandom Holes is a 2003 live-action film directed by Andrew Davis and written by Louis Sachar, with the movie being based on his novel of the same name, starring Sigourney Weaver as Louise

Holes Summary and Study Guide | SuperSummary Louis Sachar's 1998 children's mystery novel, Holes, tells the story of Stanley Yelnats, a 14-year-old boy accused of stealing a pair of shoes. A judge sentences him to 18 months in a camp,

Holes streaming: where to watch movie online? Find out how and where to watch "Holes" online on Netflix, Prime Video, and Disney+ today - including 4K and free options

Watch Holes (2003) - Free Movies | Tubi A wrongfully convicted boy is sent to a harsh desert camp, where he joins others in digging endless holes, uncovering secrets and seeking redemption

Watch Holes | Netflix At a Texas detention camp, delinquents are forced to dig holes every day as a character-building exercise. But what's the real reason for the digging? Watch trailers & learn more

Watch Holes - Disney+ Once there, he's thrown headlong into the adventure of his life when he and his colorful campmates—Squid, Armpit, Zigzag, Magnet, X-Ray and Zero—must dig a hole a day to keep

Holes (film) - Wikipedia Holes is a 2003 American comedy film directed by Andrew Davis and written by Louis Sachar, based on his 1998 novel. The film stars Sigourney Weaver, Jon Voight, Patricia Arquette, Tim

Holes (2003) - IMDb Holes: Directed by Andrew Davis. With Sigourney Weaver, Jon Voight, Tim Blake Nelson, Shia LaBeouf. A wrongfully convicted boy is sent to a brutal desert detention camp where he joins

Holes by Louis Sachar Plot Summary | LitCharts Get all the key plot points of Louis Sachar's Holes on one page. From the creators of SparkNotes

Holes: Full Book Summary | SparkNotes A short summary of Louis Sachar's Holes. This free synopsis covers all the crucial plot points of Holes

Holes | Disney Wiki | Fandom Holes is a 2003 live-action film directed by Andrew Davis and written by Louis Sachar, with the movie being based on his novel of the same name, starring Sigourney Weaver as Louise

Holes Summary and Study Guide | SuperSummary Louis Sachar's 1998 children's mystery novel, Holes, tells the story of Stanley Yelnats, a 14-year-old boy accused of stealing a pair of shoes. A judge sentences him to 18 months in a camp,

Holes streaming: where to watch movie online? Find out how and where to watch "Holes" online on Netflix, Prime Video, and Disney+ today - including 4K and free options

Watch Holes (2003) - Free Movies | Tubi A wrongfully convicted boy is sent to a harsh desert camp, where he joins others in digging endless holes, uncovering secrets and seeking redemption

Watch Holes | Netflix At a Texas detention camp, delinquents are forced to dig holes every day as a character-building exercise. But what's the real reason for the digging? Watch trailers & learn more

Watch Holes - Disney+ Once there, he's thrown headlong into the adventure of his life when he and his colorful campmates—Squid, Armpit, Zigzag, Magnet, X-Ray and Zero—must dig a hole a day to keep

Holes (film) - Wikipedia Holes is a 2003 American comedy film directed by Andrew Davis and written by Louis Sachar, based on his 1998 novel. The film stars Sigourney Weaver, Jon Voight, Patricia Arquette, Tim

Holes (2003) - IMDb Holes: Directed by Andrew Davis. With Sigourney Weaver, Jon Voight, Tim

Blake Nelson, Shia LaBeouf. A wrongfully convicted boy is sent to a brutal desert detention camp where he joins

Holes by Louis Sachar Plot Summary | LitCharts Get all the key plot points of Louis Sachar's Holes on one page. From the creators of SparkNotes

Holes: Full Book Summary | SparkNotes A short summary of Louis Sachar's Holes. This free synopsis covers all the crucial plot points of Holes

Holes | Disney Wiki | Fandom Holes is a 2003 live-action film directed by Andrew Davis and written by Louis Sachar, with the movie being based on his novel of the same name, starring Sigourney Weaver as Louise

Holes Summary and Study Guide | SuperSummary Louis Sachar's 1998 children's mystery novel, Holes, tells the story of Stanley Yelnats, a 14-year-old boy accused of stealing a pair of shoes. A judge sentences him to 18 months in a camp,

Holes streaming: where to watch movie online? Find out how and where to watch "Holes" online on Netflix, Prime Video, and Disney+ today - including 4K and free options

Watch Holes (2003) - Free Movies | Tubi A wrongfully convicted boy is sent to a harsh desert camp, where he joins others in digging endless holes, uncovering secrets and seeking redemption

Watch Holes | Netflix At a Texas detention camp, delinquents are forced to dig holes every day as a character-building exercise. But what's the real reason for the digging? Watch trailers & learn more

Watch Holes - Disney+ Once there, he's thrown headlong into the adventure of his life when he and his colorful campmates—Squid, Armpit, Zigzag, Magnet, X-Ray and Zero—must dig a hole a day to keep

Holes (film) - Wikipedia Holes is a 2003 American comedy film directed by Andrew Davis and written by Louis Sachar, based on his 1998 novel. The film stars Sigourney Weaver, Jon Voight, Patricia Arquette, Tim

Holes (2003) - IMDb Holes: Directed by Andrew Davis. With Sigourney Weaver, Jon Voight, Tim Blake Nelson, Shia LaBeouf. A wrongfully convicted boy is sent to a brutal desert detention camp where he joins

Holes by Louis Sachar Plot Summary | LitCharts Get all the key plot points of Louis Sachar's Holes on one page. From the creators of SparkNotes

Holes: Full Book Summary | SparkNotes A short summary of Louis Sachar's Holes. This free synopsis covers all the crucial plot points of Holes

Holes | Disney Wiki | Fandom Holes is a 2003 live-action film directed by Andrew Davis and written by Louis Sachar, with the movie being based on his novel of the same name, starring Sigourney Weaver as Louise

Holes Summary and Study Guide | SuperSummary Louis Sachar's 1998 children's mystery novel, Holes, tells the story of Stanley Yelnats, a 14-year-old boy accused of stealing a pair of shoes. A judge sentences him to 18 months in a camp,

Holes streaming: where to watch movie online? Find out how and where to watch "Holes" online on Netflix, Prime Video, and Disney+ today - including 4K and free options

Watch Holes (2003) - Free Movies | Tubi A wrongfully convicted boy is sent to a harsh desert camp, where he joins others in digging endless holes, uncovering secrets and seeking redemption

Watch Holes | Netflix At a Texas detention camp, delinquents are forced to dig holes every day as a character-building exercise. But what's the real reason for the digging? Watch trailers & learn more

Watch Holes - Disney+ Once there, he's thrown headlong into the adventure of his life when he and his colorful campmates—Squid, Armpit, Zigzag, Magnet, X-Ray and Zero—must dig a hole a day to keep