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Program Support Notes

Junior – **M**iddle **S**econdary

33 mins

The Bones of It

An Introduction to the Skeleton

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Suitable for:

Physical Education

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The Bones of It – An Introduction to the Skeleton

For Teachers:

Introduction

Human bodies contain 206 major bones. Without these bones our bodies would have no shape, nor the ability to move. This program looks at the make up of the skeleton, its functions, how we move, how to look after our bones, and what can go wrong with bones.

Program Timeline

00:00:00	Introduction
00:02:55	Chapter 1 - Why do we have bones?
00:08:32	Summary – Why do we have bones?
00:09:06	Chapter 2 - What does a skeleton look like?
00:13:21	Summary – What does a skeleton look like?
00:13:54	Chapter 3 - Movement and joints
00:18:20	Summary – Movement and joints
00:18:55	Chapter 4 - Breaking and healing
00:23:51	Summary – Breaking and healing
00:24:25	Chapter 5 - Healthy bones
00:29:50	Summary – Healthy bones
00:30:25	Conclusion
00:31:42	Credits
00:32:50	End program

Useful Resources

- **Wright, Peter** et al (1992) *Inside and Out – A Physical Education Book*. Jacaranda Press, Qld, Australia.
- **Williams, Peter** (1989) *An Introduction to Health and Physical Education for Secondary Schools*. Moreton Bay Publishing, Qld, Australia.

Website References

- www.skeletalsystem.net/
- www.kidshealth.org/kid/htbw/bones.html
- www.shockfamily.net/skeleton/
- <http://hes.ucfsd.org/gclaypo/skelweb/skel01.html>
- <http://library.thinkquest.org/5777/skel.htm>
- www.mnsu.edu/emuseum/biology/humananatomy/skeletal/skeletalsystem.html

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- Biomechanics
- All About Muscles

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Student Worksheet:

Before Viewing the Program

1. What function do bones fulfil?
2. What would we be like without bones?
3. List some problems or diseases that can occur in bones.

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While Viewing the Program

1. How many bones does the human skeleton have?

2. What would happen to the shape of our body if we didn't have bones?

3. What do our bones protect?

4. How does our skeleton help us move?

5. What does the skeleton store?

6. Where is bone marrow produced?

7. List the five main functions of the skeleton.

8. What are the two main parts of the skeleton and what is each part comprised of?

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9. What do the axial and appendicular systems do?

10. How many types of bones are there?

11. What is a joint?

12. What are the three main types of joints?

13. What are three things that freely movable joints contain?

14. What are the two main types of bone?

15. What are bones made of?

16. What causes a bone to break?

17. Identify two types of fracture.

18. What is scoliosis?

19. In what ways can we help strengthen and prevent bone damage?

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After Viewing the Program

1. Research the following topics:
 - a) **Osteoporosis**
 - What is it?
 - What causes it?
 - Can it be prevented? If so, how?
 - Who suffers from osteoporosis?
 - b) **Arthritis**
 - What is it?
 - What causes it?
 - Can it be prevented? If so, how?
 - Who suffers from arthritis?
 - c) **Spina bifida**
 - What is it?
 - What causes it?
 - Can it be prevented? If so how?
 - Who suffers from spina bifida?

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Suggested Student Responses

1. How many bones does the human skeleton have?
The human skeleton has 206 bones.
2. What would happen to the shape of our body if we didn't have bones?
We wouldn't have any shape, and we'd be a squishy mess on the floor.
3. What do our bones protect?
Vital organs eg. heart, lungs, brain, spinal cord
4. How does our skeleton help us move?
Muscles are connected to the skeleton; they contract to help the skeleton move.
5. What does the skeleton store?
Minerals – calcium and phosphorus
6. Where is bone marrow produced?
In the ends of long bones and in flat bones
7. List the five main functions of the skeleton.
Shape, protection, movement, storage and production
8. What are the two main parts of the skeleton, and what is each part comprised of?
Axial – head and trunk; Appendicular – shoulder girdle, arm, hand, pelvic girdle, leg, foot
9. What do the axial and appendicular systems do?
Axial provides protection. Appendicular allows movement.
10. How many types of bones are there?
There are five types of bone.
11. What is a joint?
Where two or more bones meet
12. What are the three main types of joints?
Immovable, slightly movable, freely movable
13. What are three things that freely movable joints contain?
Ligaments, cartilage and synovial fluid
14. What are the two main types of bone?
Compact (hard) and cancellous (spongy)
15. What are bones made of?
Calcium, phosphorous, sodium, and collagen
16. What causes a bone to break?
Too much pressure or force
17. Identify two types of fractures.
Any 2 of: simple, compound, impacted, comminuted, greenstick, avulsion, pathological.
18. What is scoliosis?
A curve in the spine
19. In what ways we can help strengthen and prevent bone damage?
Eating/drinking calcium, weight-bearing exercise, wearing protective equipment