

# A&P 1

## Skeletal Lab Guide #7 -

### Appendicular Skeleton and Joints Lab Exercises:

### Pelvic Girdle

**Step 1.** Identify the features of the Pelvic Girdle and Associated Limbs you need to know



Read  
me!

You will need a disarticulated skeleton, and an articulated skeleton at your station.

**#1**

Your instructor wants you to know some features associated with the individual bones of the pelvic girdle and lower limb. **Highlight the terms you need, or underline them on the images in your lab or lecture book! Label the features on the accompanying images.**

In the "Appendicular Pre-lab Lab Exercise Guide", we made a list of terms you need to know. Use that as a guide, writing "none" if you do not have to know any off a specific bone

**#2**


**Notice that this exercise asks you to identify which features are associated with certain joints.**

If you are not sure if a feature is associated with a joint, put it in the "**other features**" category. You can change your mind later, after asking your instructor!

You are not being graded on your ability to analyze the joints; we are simply making you look! You can change your mind later, when you study the muscles!

**#3**

Find each feature on the disarticulated bone AND the articulated skeleton. Label the features on the images below as your group moves through the skeleton.



Continued on next page

#4

Examine The Pelvic Girdle & Hip Joint:Read  
me!

You will need the model of the hip joint, a disarticulated skeleton, and an articulated skeleton at your station. If the model model is unavailable, move to another step, or use the images in your text.

Look at this image of the articulated shoulder joint, while examining the skeleton at your station. Follow the steps "1", "2", "3", ect. in sequential order.

Then, on the following page, label them on the bone images while examining the bones in lab.

***The pelvic girdle contains 2 large boney structures called "os coxae". However, each os coxa consists of 3 separate bones that are fused by the time a person is 20 years old:***

***Ilium******Ischium******Pubic bone***

***There is also a joint between the os coxa and the sacrum, called the "sacroiliac joint". We won't be looking at that.***

1.

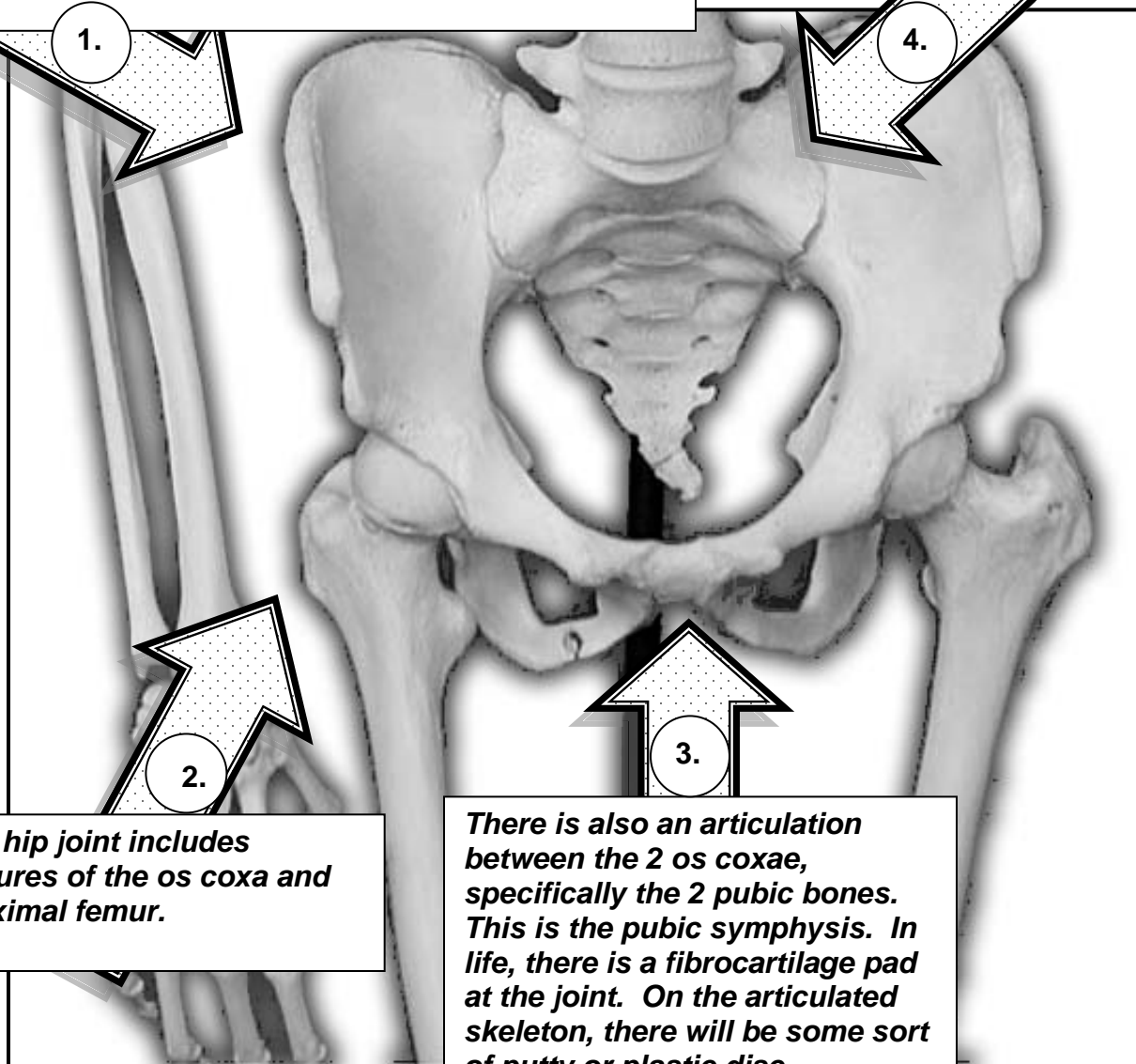
4.

2.

3.

***The hip joint includes features of the os coxa and proximal femur.***

***There is also an articulation between the 2 os coxae, specifically the 2 pubic bones. This is the pubic symphysis. In life, there is a fibrocartilage pad at the joint. On the articulated skeleton, there will be some sort of putty or plastic disc.***



#5

In the room is a model of the hi joint, similar to the one seen in the image to the right. Bring it to your workstation if it is available. If not available, find an image in your book which shows the ligaments attaching (similar to the model). You may look in the "articulation" chapter.

Get an os coxa and a femur out of your "Disarticulated skeleton box". If possible, make sure they are from the same side of the body (for example, make sure they are both from the right-side of the body).

Use labeled book images as a guide.

Do not worry about naming the ligaments yet; we'll do that later.



#6

Now, let's label the features associated with the elbow joint, while finding them on the bones in lab. Remember to write "none" if you do not need something in a category.

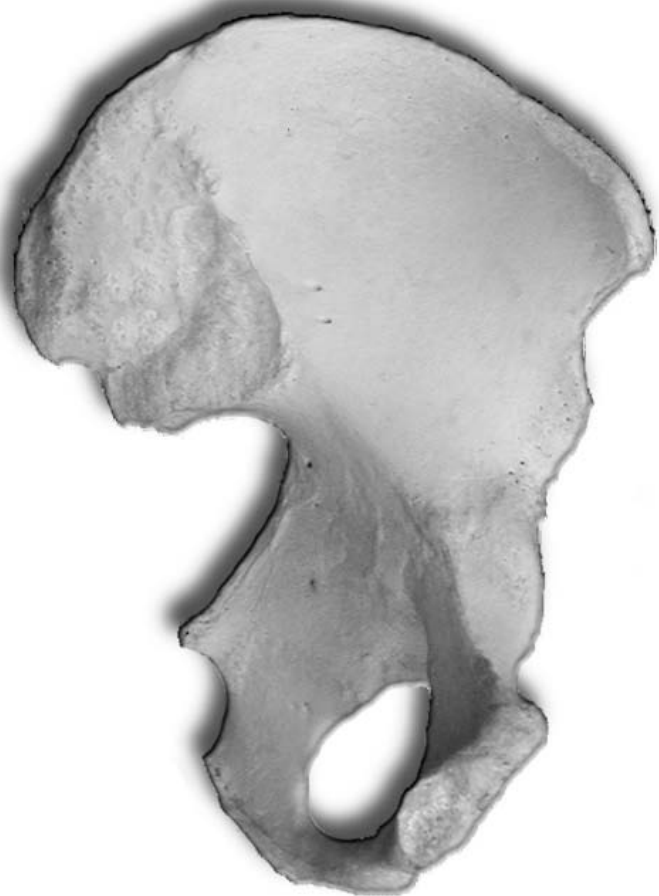
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**#1. The Os Coxae - Do this while looking at the hip on the articulated skeleton, the model (or the image in your book), and the disarticulated bone. Use book images as a guide. List and label anything you need to know, while finding them on the disarticulated bone. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.**

**First, on both the images below, label the 3 separate bones, while outlining them (roughly). Label the pubic symphysis.**

**Now, using the model as a guide, label the features directly associated with the hip joint, and the girdle itself. Use Include any features that you think might act as attachments for thigh muscles. Don't worry about being 100% accurate; you will have a chance to change your mind later!**

**Lastly, label the "Other Features" (any feature you need to know but is not directly associated with the hip joint).**



***Anterior & Medial***



***Lateral & Posterior***

**#2. The Femur - Do this while looking at the hip model, or the image in your book, and the disarticulated bone. Use book images as a guide. List and label anything you need to know, while finding them on the disarticulated bone.**

**Label the features associated with the hip joint (we'll do more on the femur in subsequent joints). Just pay attention to the proximal femur, as the distal end is not involved in the hip joint (directly). Don't worry about being 100% accurate; you will have a chance to change your mind later!**

**Include any processes that you think serve as attachments for thigh or hip muscles, or structures involved in the joint itself. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.**

***anterior***



***posterior***



**(do not worry about the distal end of the femur, which does not play a role in the shoulder joint)**

**Step 2.** Identify the features of the Knee Joint you need to know

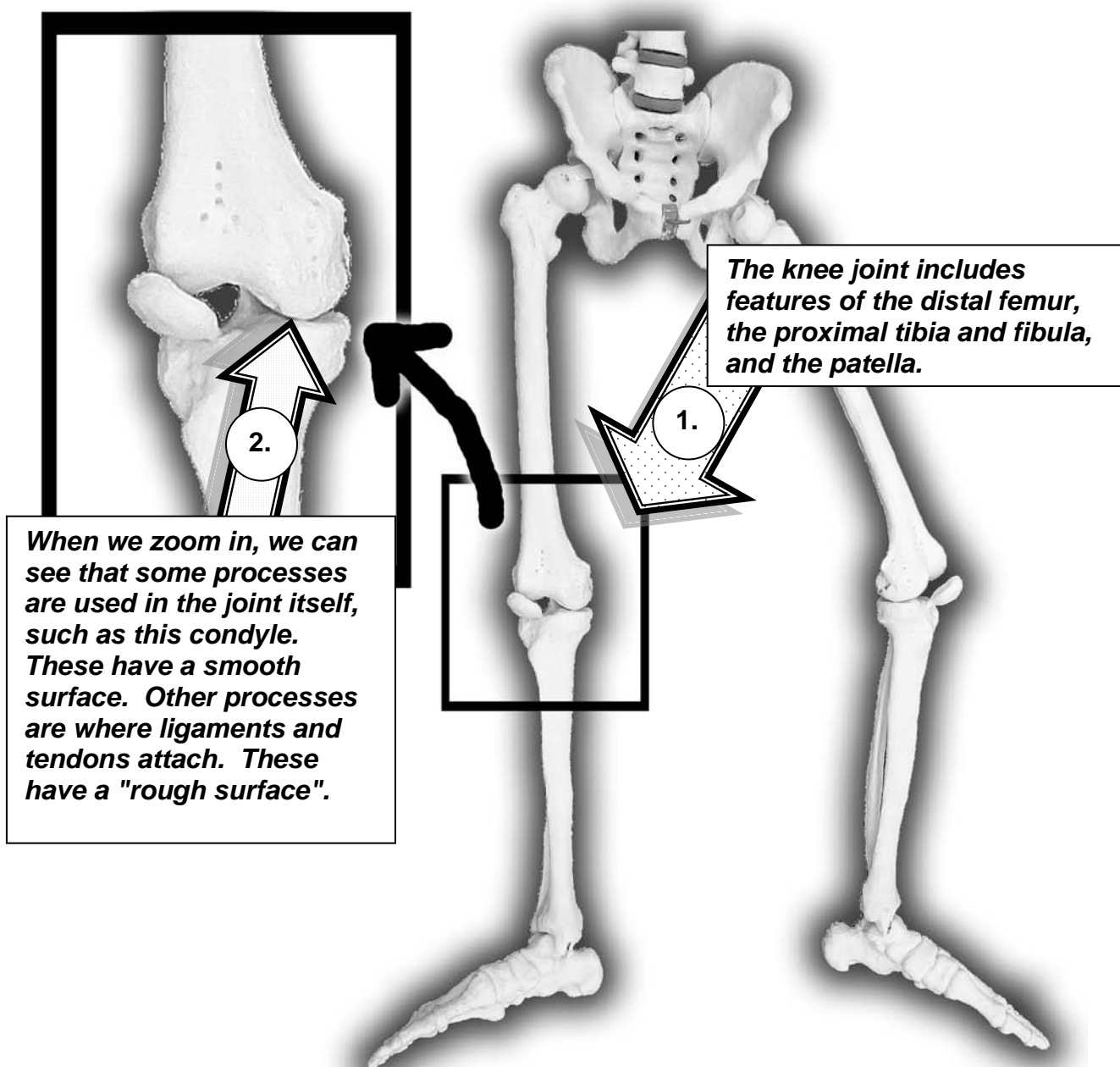
**Read me!**

You will need the model of the knee joint, a disarticulated skeleton, and an articulated skeleton at your station. If the knee model is unavailable, move to another step, or use the images in your text.

**#1**

Look at the image below of the articulated knee joint, while examining the skeleton at your station. Follow the steps " 1 " and " 2 " in sequential order.

Then, on the following page, list the features of the bones, while labeling them on the bone images.



#2

In the room is a model of the knee joint, similar to the one seen in the image to the right. Bring it to your workstation if it is available. If not available, find an image in your book which shows the ligaments attaching (similar to the model). You may look in the "articulation" chapter.

Get a femur, tibia, fibula and patella out of your "Disarticulated skeleton box". If possible, make sure they are from the same side of the body (for example, make sure they are all from the right-side of the body).

Use labeled book images as a guide.

Do not worry about naming the ligaments yet; we'll do that later.



#3

Now, let's label the features associated with the knee joint, while finding them on the bones in lab. Remember to write "none" if you do not need something in a category.

Continued on next page

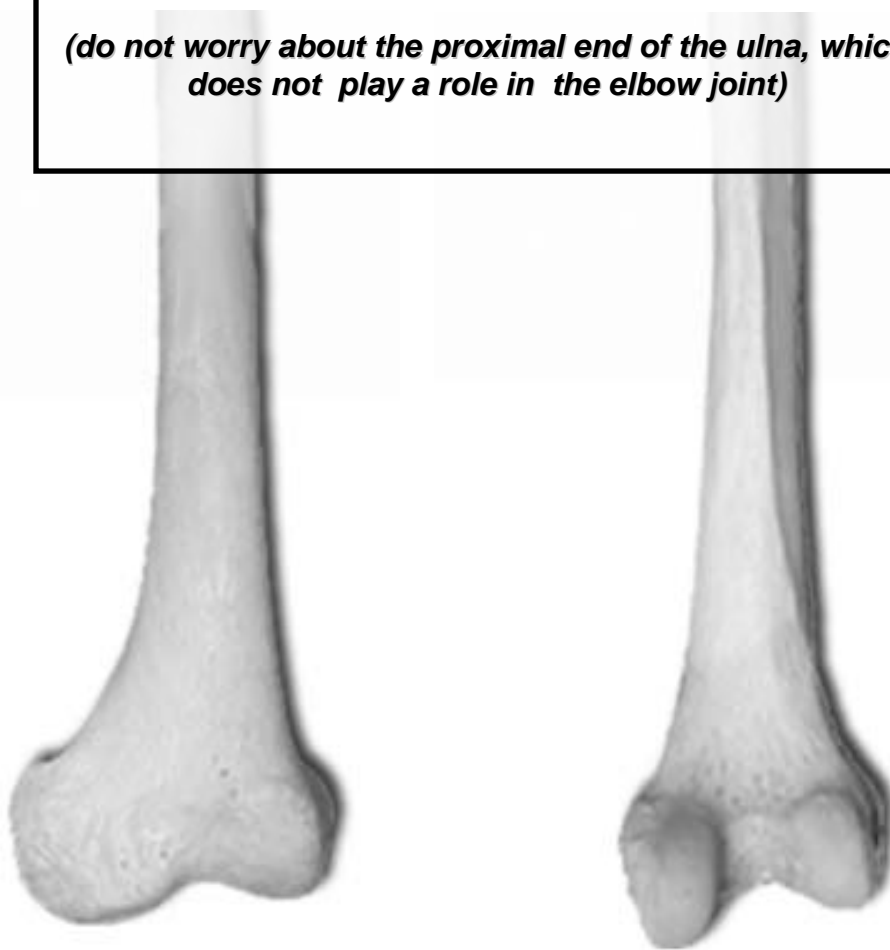
#1. The Femur - Do this while looking at the knee model, and the disarticulated bone. Use book images as a guide. On the image below, label anything you need to know, while finding them on the disarticulated bone. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.

Label the features associated with the knee joint. Just pay attention to the distal femur, as the proximal end is not involved in the knee joint (directly). Don't worry about being 100% accurate; you will have a chance to change your mind later!

Include any processes that you think serve as attachments for thigh, hip or shin muscles, or structures involved in the joint itself. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.

Then, label any "Other Features" you haven't labeled yet.

*(do not worry about the proximal end of the ulna, which does not play a role in the elbow joint)*



***anterior***

***posterior***

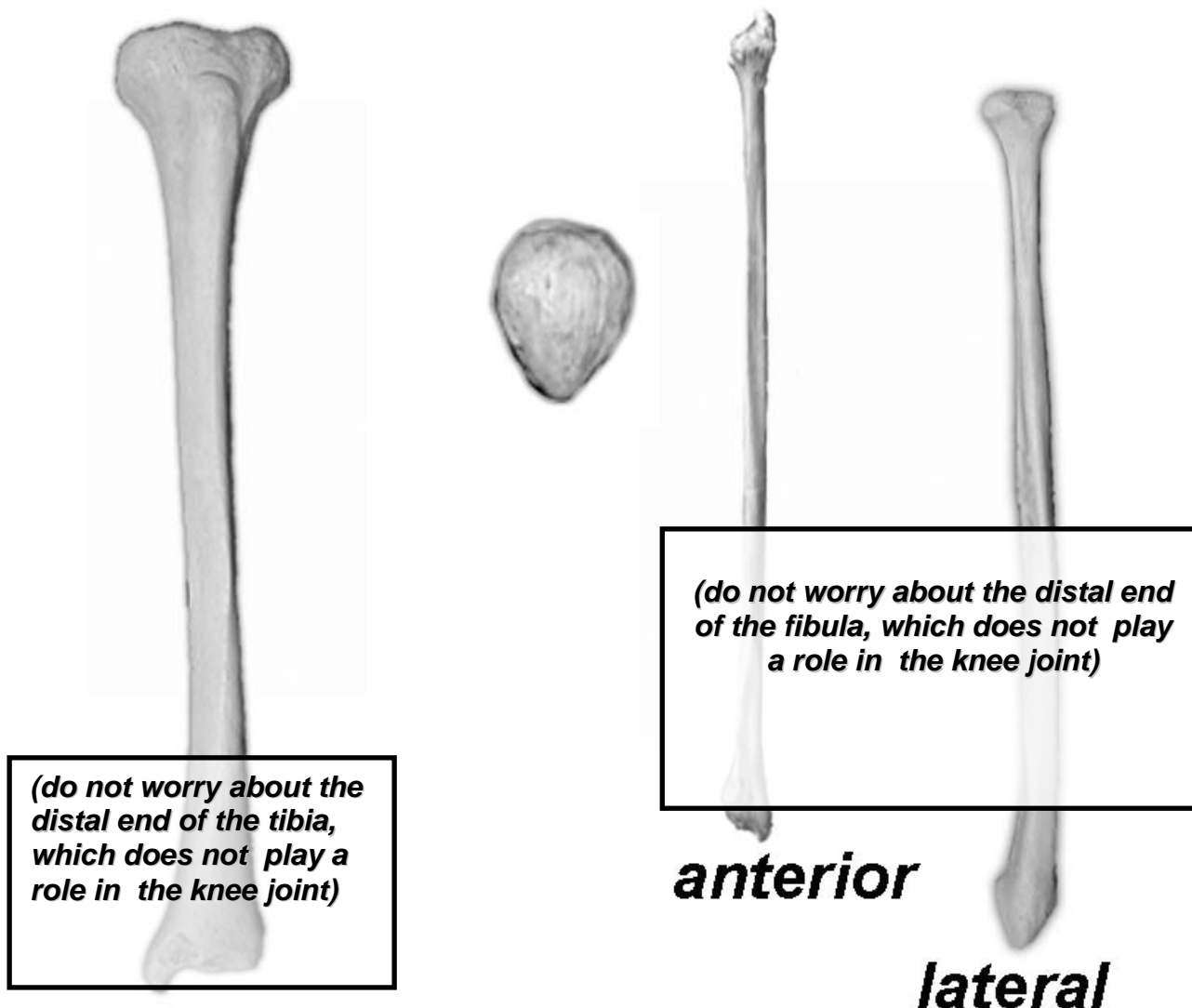


**#2. The Tibia, Fibula, and Patella -** Do this while looking at the knee model, and the disarticulated bones. Use book images as a guide. On the image below, label anything you need to know, while finding them on the disarticulated bone. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.

Label the bones below, as well as the features associated with the knee joint. Just pay attention to the proximal tibia and fibula, as the distal ends are not involved in the knee joint (directly). Don't worry about being 100% accurate; you will have a chance to change your mind later!

Include any processes that you think serve as attachments for thigh, hip or shin muscles, or structures involved in the joint itself. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.

Then, label any "Other Features" you haven't labeled yet.

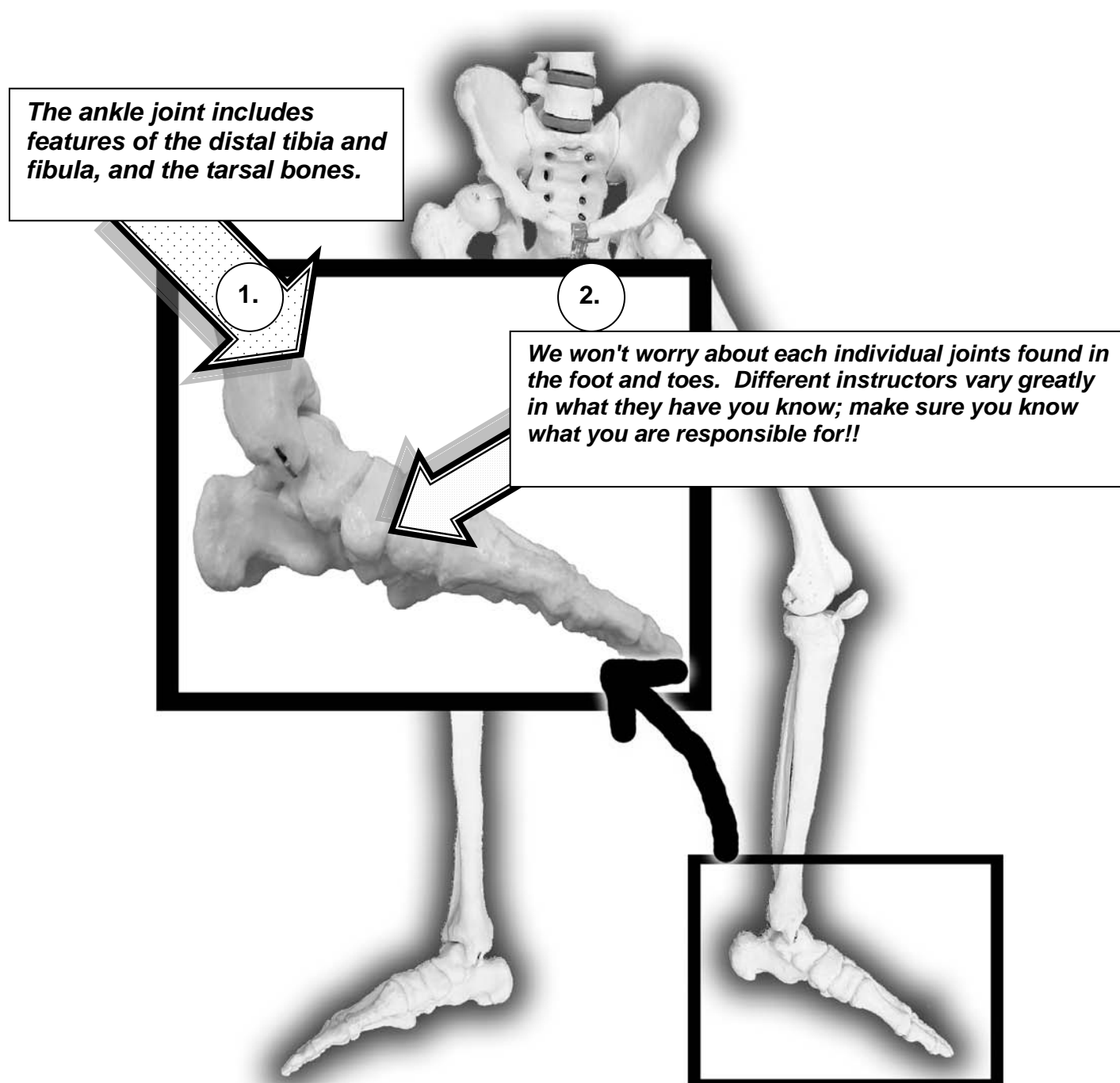


### **Step 3** Examine The Ankle Joint, Foot and Toes

**#1**

Look at this image of the articulated ankle joint, while examining the skeleton at your station. Follow the steps "1" and "2" in sequential order.

Then, on the following page, list the features of the bones, while labeling them on the bone images.



#2

In the room is a model of the foot and ankle joint, similar to the one seen in the image to the right.. Alternatively, you can use the ankle on your articulated skeleton.

Find the labeled images in your book.

Inside the "Disarticulated skeleton box", there will be an tibia, fibula, and an articulated foot. Get them out!



#3

Now, let's label the features associated with the ankle joint, while finding them on the bones in lab. Remember to write "none" if you do not need something in a category.

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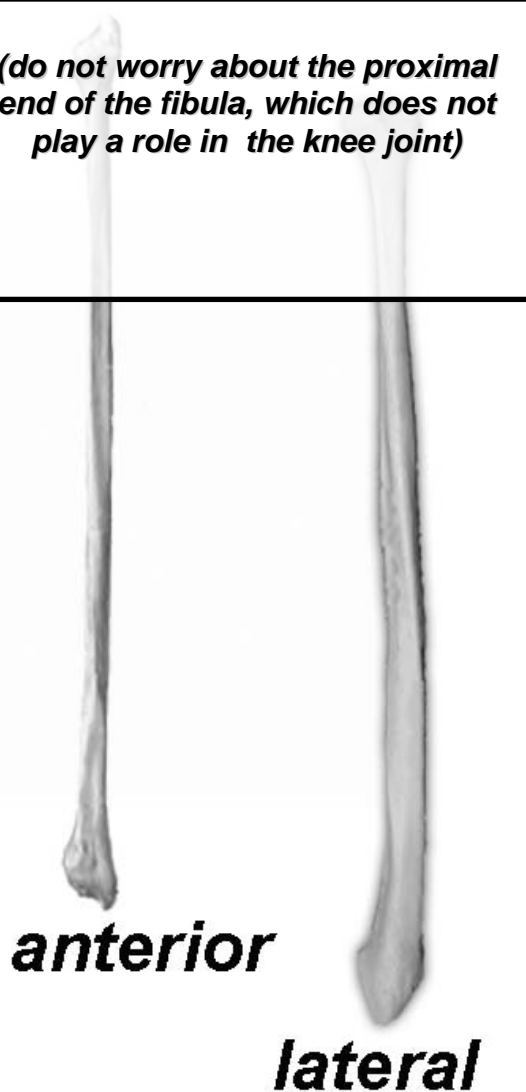
#1. The Tibia and Fibula - Do this while looking at the disarticulated tibia and fibula. Label the bones below, as well as anything you need to know in the ankle region, while finding them on the articulated bone. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.

Then, label any "Other Features" you haven't labeled yet.

*(do not worry about the proximal end of the tibia, which does not play a role in the knee joint)*



*(do not worry about the proximal end of the fibula, which does not play a role in the knee joint)*



**anterior**

**lateral**

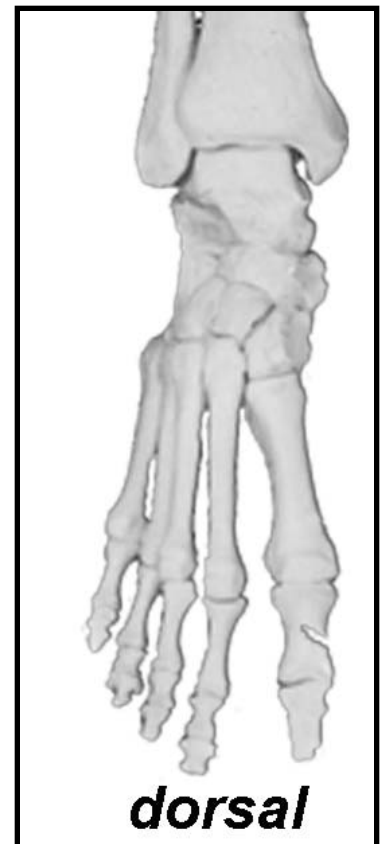
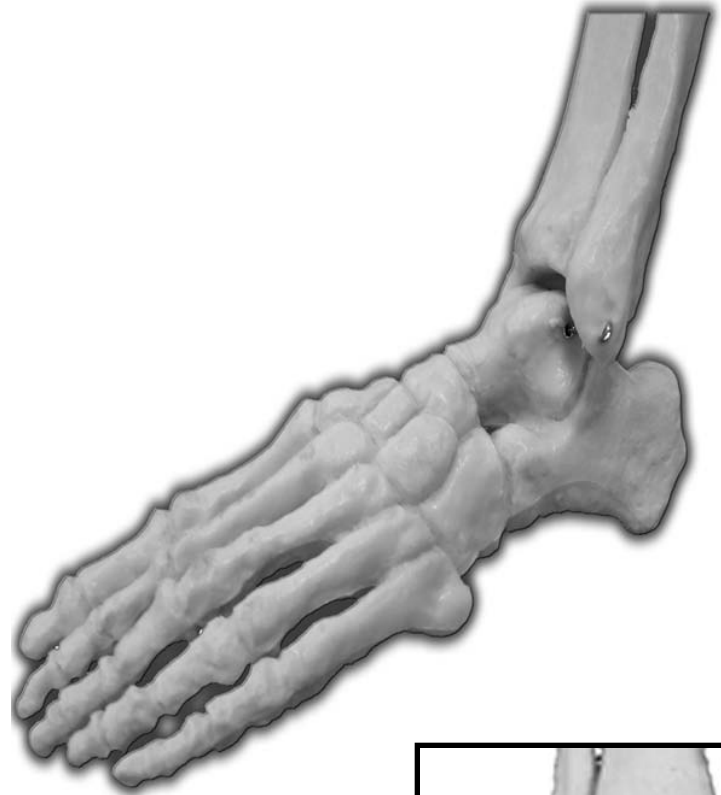
#2. On the images below, first label the "Big Toe Side". Then, label the features you are responsible for. Remember: you are only labeling the image as a guide; you will be tested on real bone. Skip the labeling if it does not help.

Individual tarsal bones (articulated)  
I need to know:

What to know about the  
Metatarsals:

What to know about the Phalanges of the foot:

Other things to know:

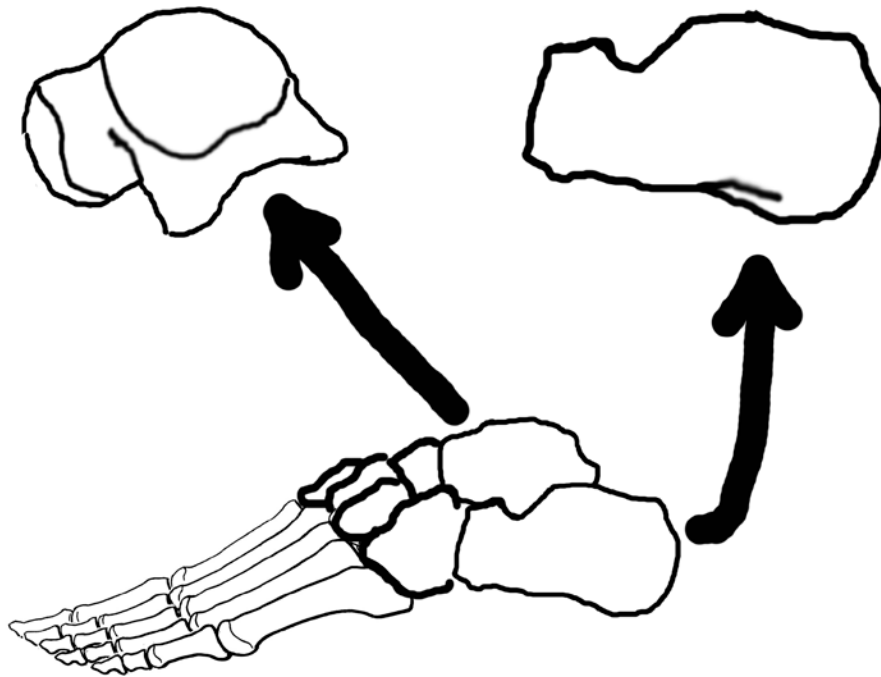


#4

Check with your instructor to see if you need to know these 2 tarsal bones  
DISARTICULATED:

**Talus**  
**Calcaneus**

If so, circle the drawings below and label them as you find the bones in the  
"Disarticulated skeleton box":



## Team Assessment for STEPS 1, 2 & 3

Before moving onto the next step, make sure everyone in your group gets at least a "75%" on this assessment. That means they have to get 7 - 8 out of 10 on the score-sheet below.

***If you move on before doing this assessment, you will only end up spending more time later! It is better to know the pectoral girdle WELL before moving on to another part of the skeleton.***

***Repeat this procedure in a couple of days...but before the next lab session. You will find that through this process you will do much less "cramming" for the quiz or exam. Instead...you will simply know the material!***

Using the diagrams you labeled on the previous pages as a key, quiz your teammates on both the disarticulated bones and the articulated skeleton. Point at every bone and feature, and ask "name this bone" or "name this bump" or "name this groove", etc.

Only give them a few seconds to answer. If they haven't in 5 seconds,, say "time's up!" and give them the answer. Then RE-ASK THE SAME FEATURE in a few questions.

If they haven't gotten it correct the third time you return to a feature, make them write it out 5 times on a piece of paper. Then, ask them again later.

### Score Sheet:

	Teammate #1	Teammate #2	Teammate #3
<b>How many did they get right?:</b>			
<b>Words they are struggling with:</b>			

Percent Correct:

**HINT: to make this challenge harder, jump "between bones" when asking questions!!**