## **Virtual Beetle Dissection Activity**

## **Beetle X-ray Videos**

Instructions: Open the beetle x-ray video viewer webpage. View the *Dicronorrhina derbyana* beetle x-ray videos. Read the text on the webpage. Answer the following questions while reading and observing the videos.

1.	1. Record observations of the following tissues and structures using the x-ray videos:		
	a)	flight muscles	
	b)	leg muscles	
	c)	brain	
	d)	eyes	
	e)	digestive tract	
	f)	testes	
	g)	eggs	
	h)	penis	
	i)	legs	
	j)	wings	
	k)	elytra	
	l)	spiracles	
2.	Explain why different types of tissue appear brighter or darker on x-rays.		
3.	Which structures are easy to see on the x-rays? Why?		
4.	Whi	ch structures are difficult to tell apart on the x-rays? Why?	

5.	Are there any structures that you could find in the beetle dissection that you can't find in the x-ray videos? Propose a reason why you can't find them.
6.	Compare the beetle dissection to the beetle x-ray videos. Is dissection or x-ray technology more useful? Explain your answer.
7.	What are x-rays?
8.	What are radiographs?
9.	What is MicroCT? Why is it useful?
10.	Besides viewing beetle body parts, what are x-rays used for?
11.	Putting it all together: Some body parts are difficult to see using x-ray. Propose a way that would allow you to observe more body parts using x-ray. Use additional resources if needed.