

Activity #3: Solar System Collisions

Please go to the web site: <http://janus.astro.umd.edu/astro/impact/>

What happens if we consider the whole Earth rather than simply an impact on only land?
Complete Table 3 and then answer the questions.

Change the Earth (land only) to simply Earth and repeat for 0.5 km diameter projectile with velocity 20 km/sec.

Table 3

Composition	Result: what happens? Where?	Energy released	Crater diameter	Crater depth	Frequency once every...
Rock					
Ice					
Iron					

For comparison complete for the Earth (land only), 0.5 km diameter body, velocity= 20 km/sec

Rock					
Ice					
Iron					

3-1. Compare the Earth (land only) data for the 0.5 km projectile to the (whole) Earth. What has changed and account for any differences?

3-2. Go back to the website and produce the event that is most likely to occur when the whole Earth is the target. Click on the description below the image to see how your event compares to historical events that were non-impact produced. How does the devastating 2004 event compare to other historical events?

3-3. Compare crater depths on land and water. Is there a difference? Explain.