1. I did 6 J of work picking up a ball and then did 4 J of work throwing it.

TME: *10 J*				
KE	+	GPE	+	EPE
4 J		*6 J*		*0 J*

Since throwing the ball gives it velocity, that energy is Kinetic Energy (KE)

Since picking up the ball gives it height, that energy is Gravitational Potential Energy (GPE)

Nothing springy was compressed or stretched.

1. BEFORE: I did 12 J of work carrying a rock up a river bank, and I did 20 J of work throwing it.
AFTER: It landed in the water (no height), moving fast.

Total Mechanical Energy is always the same before and after if no work is done by or on the system.

TME before: *32 J*	=	TME after: *32 J*

KE	+	GPE	+	EPE	=	KE	+	GPE	+	EPE
20 J		*12 J*		*0 J*		*32 J*		*0 J*		*0 J*

Throwing the rock gives it Kinetic E

Carrying the rock up gives it Gravitational PE

Nothing springy in the problem.

Since there's no GPE and no EPE, all the energy must be Kinetic E

No height means no Gravitational PE

Nothing springy in the problem.