uri "http://sadl.org/ScientificConcepts2.sadl" alias **scicncpts2**.

Derivative is a type of **ScientificConcept**,
	described by **derivativeOf** with a single value of type **ScientificConcept**,
	described by **withRespectTo** with a single value of type class.

Time is a type of **UnittedQuantity**.
Length is a type of **UnittedQuantity**.
Position is a type of **UnittedQuantity**,
	described by **x-coordinate** with values of type **Length**,
	described by **y-coordinate** with values of type **Length**,
	described by **z-coordinate** with values of type **Length**,
	described by **^time** with values of type **Time**.
Mass is a type of **UnittedQuantity**.

PhysicalObject is a class,
	described by **mass** with values of type **Mass**,
	described by **position** with values of type **Position**.

Velocity is a type of {**UnittedQuantity** and **Derivative**}.
derivativeOf of **Position** only has values of type **Velocity**.
withRespectTo of **Position** always has value **^time**.
velocity describes **PhysicalObject** with values of type **Velocity**.

Acceleration is a type of {**UnittedQuantity** and **Derivative**}.
derivativeOf of **Velocity** only has values of type **Acceleration**.
withRespectTo of **Velocity** always has value **^time**.
acceleration describes **PhysicalObject** with values of type **Acceleration**.

Momentum is a type of {**UnittedQuantity** and **Derivative**}.
momentum describes **Mass** with values of type **Momentum**.
Rule **momentumOfPhysicalObject**:
	if **o** is a **PhysicalObject** with **velocity** **v** and
		p is a **Momentum** with **^value** (**^value** of **mass** of **o** * **^value** of **velocity** of **o**),
		with **unit** **unitResolver**("*", **unit** of **mass** of **o**, **unit** of **velocity** of **o**)
	then **momentum** of **o** is **p**.

Force is a type of {**UnittedQuantity** and **Derivative**}.
derivativeOf of **Momentum** only has values of type **Force**.
withRespectTo of **Momentum** always has value **^time**.
force describes **PhysicalObject** with values of type **Force**.

External **unitResolver**(string **operation**, string **u**, ...)
	returns string: "http://sadl.org/unitSelector".