

Science DesCartes: Physical Science

Skills: Forces and the Universe

Students:	DesCartes Skills: (Highlight the skills related to your chosen standard/concept)
	RIT 231-240: <ul style="list-style-type: none"> • Applies Coulomb's law • Explains how a magnet can be used to produce electric current
	RIT 221-230: <ul style="list-style-type: none"> • Explains that negatively charged materials have an excess of negative charges • Determines the polarity of a magnet based on its interaction with other magnets • Explains how to build a simple compass • Describes the usefulness of a compass to detect magnetic fields • Describes magnetic fields • Describes ways to increase the strength of an electromagnet • Understands that weight of an object may change due to a change in gravity, but the mass of this object will remain the same • Applies Newton's laws of motion to explain movement due to gravity • Calculates gravitational forces of objects in space
	RIT 211-220: <ul style="list-style-type: none"> • Makes comparisons related to static electricity • Describes the usefulness of a compass to detect magnetic fields • Describes magnetic fields • Explains that gravitational force is hard to detect unless at least one of the objects has a lot of mass • Explains how changes in mass and distance affect gravitational force • Applies Newton's laws of motion to explain movement due to gravity
	RIT 201-210: <ul style="list-style-type: none"> • Explains why magnets attract or repel other magnets • Recognizes that like poles of magnets will repel and that unlike poles will attract • Explains that a compass needle will align to Earth's magnetic north and south poles • Explains why a compass can be used to find north • Determines the relative gravitational attraction among planets based on mass and/or distance • Relates weight to gravity (e.g., if the gravity acting on an object increases, due to a change in distance or a change in mass of the other object, the weight of an object of constant mass will also increase)
	RIT 191-200: <ul style="list-style-type: none"> • Recognizes that an electrically charged substance will attract or repel other charged materials • Gives examples of static electricity • Analyzes the charging of objects due to transfer of electrons by friction • Recognizes that magnets' forces can pass through paper, glass, and water • Makes predictions about the interaction of magnets
	RIT 181-190: <ul style="list-style-type: none"> • Recognizes that magnets can move some things without touching them • Recognizes that magnets attract certain other types of materials • Recognizes that electricity creates magnetic

	fields <ul style="list-style-type: none"> • Describes sources of magnetic fields • Recognizes that the force of gravity acts at a distance, without touching, pulling all objects toward Earth
--	--

Lesson Title:

Standard/Concept for All:

Introduction: (Get Attention; Connect to Prior Knowledge)

For Students Ready for a Challenge:

Lesson/Activity:

Resources:

Means of Assessment:

For Most Students:

Lesson/Activity:

Resources:

Means of Assessment:

For Students Needing Extra Support:

Lesson/Activity:

Resources:

Means of Assessment:

Closure/Summary for All:

