



Newton's Laws of Motion

Inspiration Software

Model - Exemplar Lesson Template

Integrating technology into the lesson plan design process should focus on appropriate uses of technology *after* the lesson has been developed and with respect to the lessons objective(s). The main focus should be the lesson and the objectives, then the introduction of technology to support educators in meeting those objectives. The lesson design template will provide examples on how technology can be used at each stage in the lesson process. Each model lesson will include:

Lesson Title:

1. Introduction – Gaining Attention
2. Learner Outcomes
3. Stimulate Prior Recall
4. Present New Information
5. Provide Guided Learning Experience
6. Independent / Group Learning Experience
7. Provide Feedback
8. Assess Performance
9. Enhance Retention and Transfer

An example for the Newton's Laws of Motion Lesson:

Introduction – Gaining Attention

Create a demonstration of the third law of motion with the use of a chair with wheels and a basketball. Sit in the chair with your feet off the ground. With two hands throw the basketball to someone standing a few feet away. This action should cause the chair to move backwards in the opposite direction of the throw. Ask students to describe what they saw. Then explain that this was a demonstration of one of Isaac Newton's laws of motion. This was the third law which states that for every action there is an opposite and equal reaction.

Learner Outcomes

After viewing the video and participating in the lesson activities, the students should be able to do the following:

- Describe each of the laws of motion developed by Isaac Newton.
- Define friction and describe how it effects the motion of objects.
- Define speed, velocity, acceleration and deceleration.
- Distinguish between mass and weight.



Stimulate Prior Recall

You may wish to conduct a brainstorming discussion, using Inspiration, based on the following:
Have students describe examples of friction in action. How is it beneficial and how is it destructive?

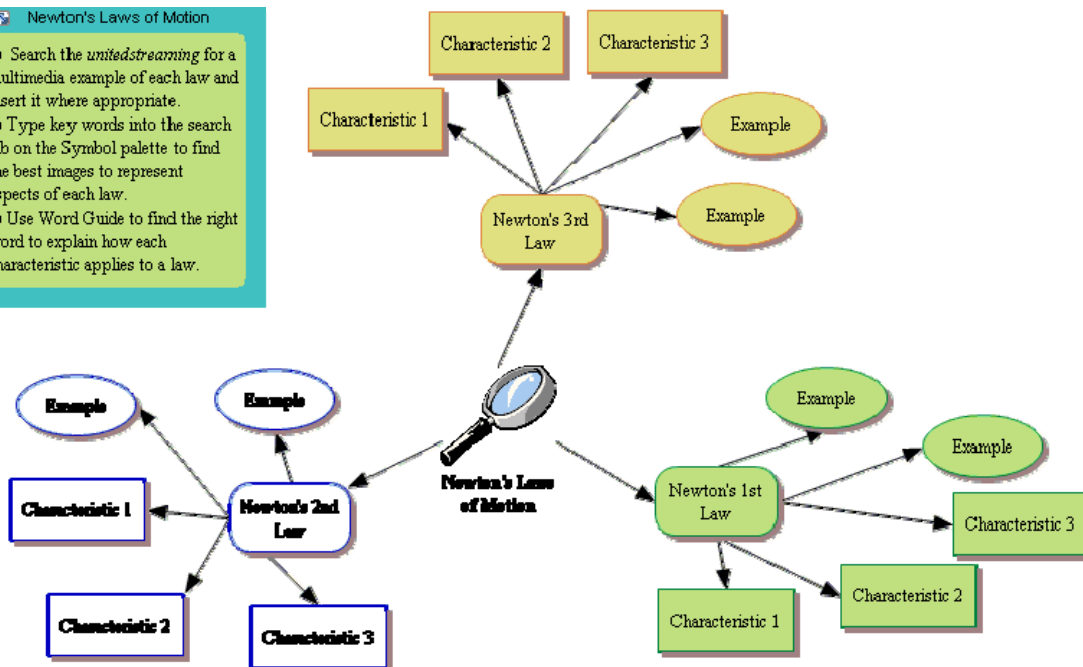
Present New Information

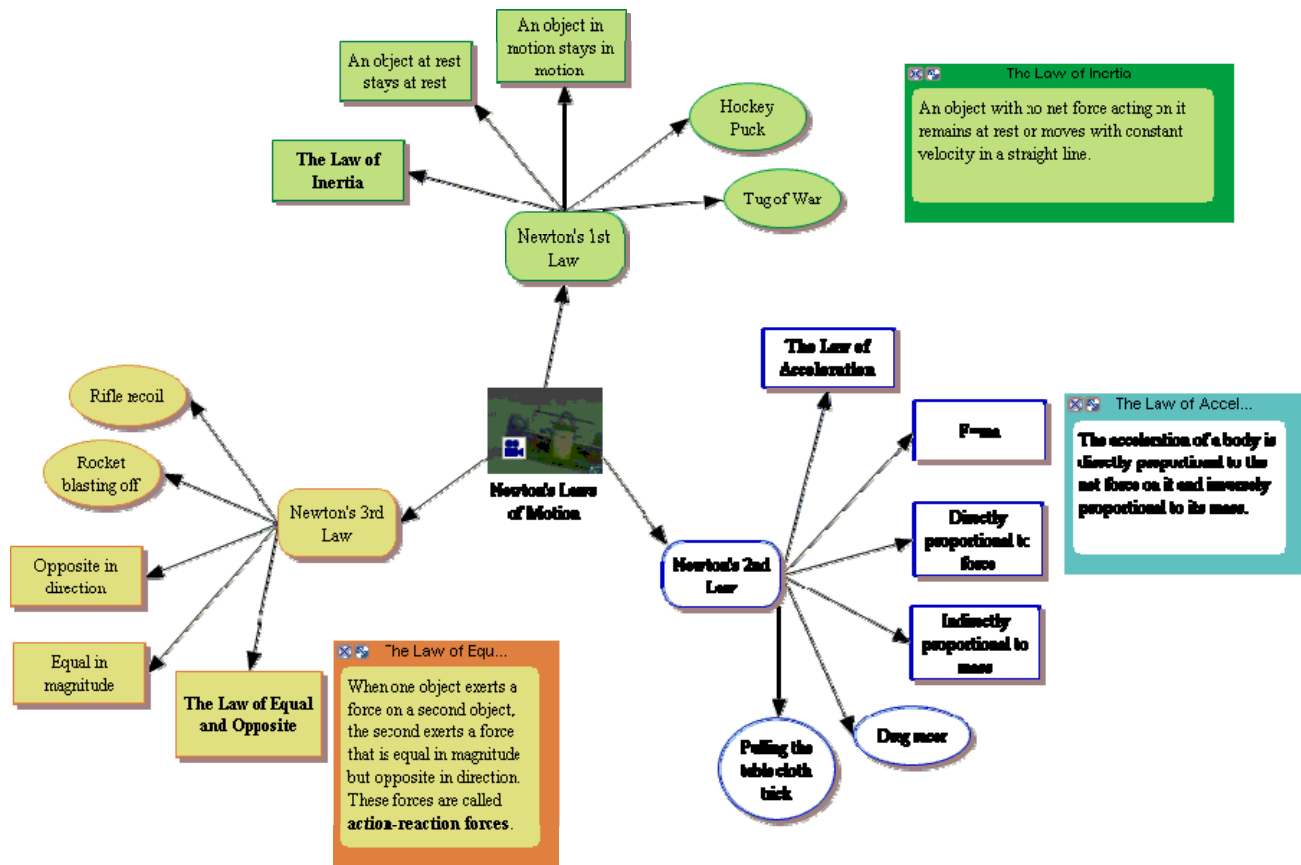
What are Newton's Three Laws of Motion? The following Inspiration web outlines each law of motion and provides examples.

Each Model Lesson includes a template for the lesson as well as a completed Model

Newton's Laws of Motion

- 1) Search the *unitedstreaming* for a multimedia example of each law and insert it where appropriate.
- 2) Type key words into the search tab on the Symbol palette to find the best images to represent aspects of each law.
- 3) Use Word Guide to find the right word to explain how each characteristic applies to a law.





Assessment Tools (Blackline Masters available with Basics of Physics: Exploring the Laws of Motion)

This lesson provides you with three different assessment tools. Together they make it possible to follow closely the progress of your students and to judge their mastery of the subject matter.

- The Pre-Test (Blackline Master 1) can be used to get some idea of students' understanding of the topic before the program is presented.
- The Post-Test (Blackline Master 12) can be used as a final test for the lesson.
- The Program Quiz and its accompanying answer sheet (Blackline Master 2) can be used either as a way to introduce the topic prior to showing the program or to judge student mastery once the program has been presented.