What did you learn in science today?

VSB AfL Focus Day
Friday Feb 17 2012

Hopes & Fears

HOPE:

You leave encouraged to try something new

FEAR:

You leave feeling offended or overwhelmed

Societal Goal

Every student is successful in science

What determines student success?

- Many things influence student learning
- Their effects are NOT equal

- Teachers make a huge difference
- What we do matters
- What should we do?

What would professional learning look like if...

Information about

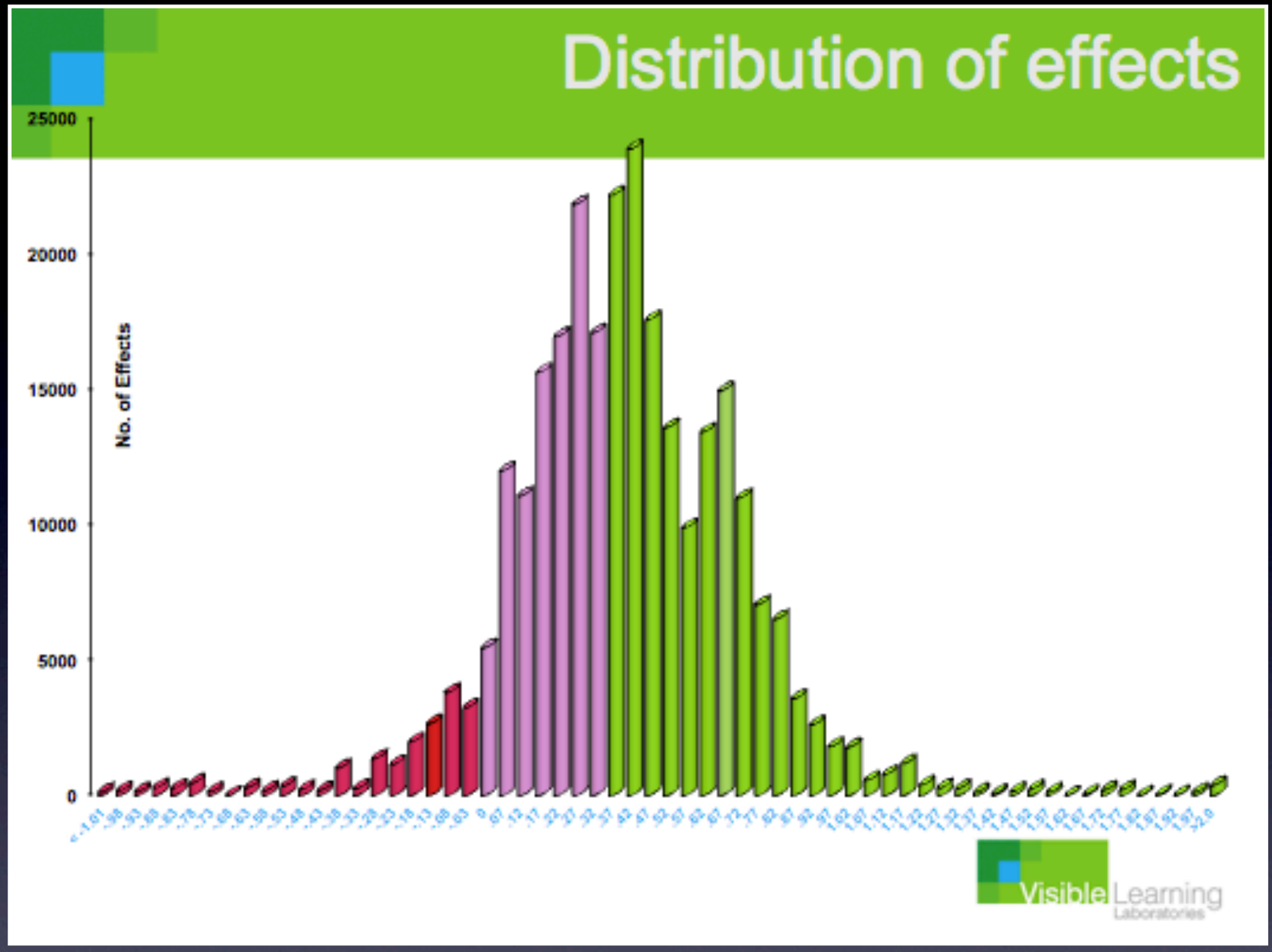
what students need to know and do

is used to identify

what teachers need to know and do.

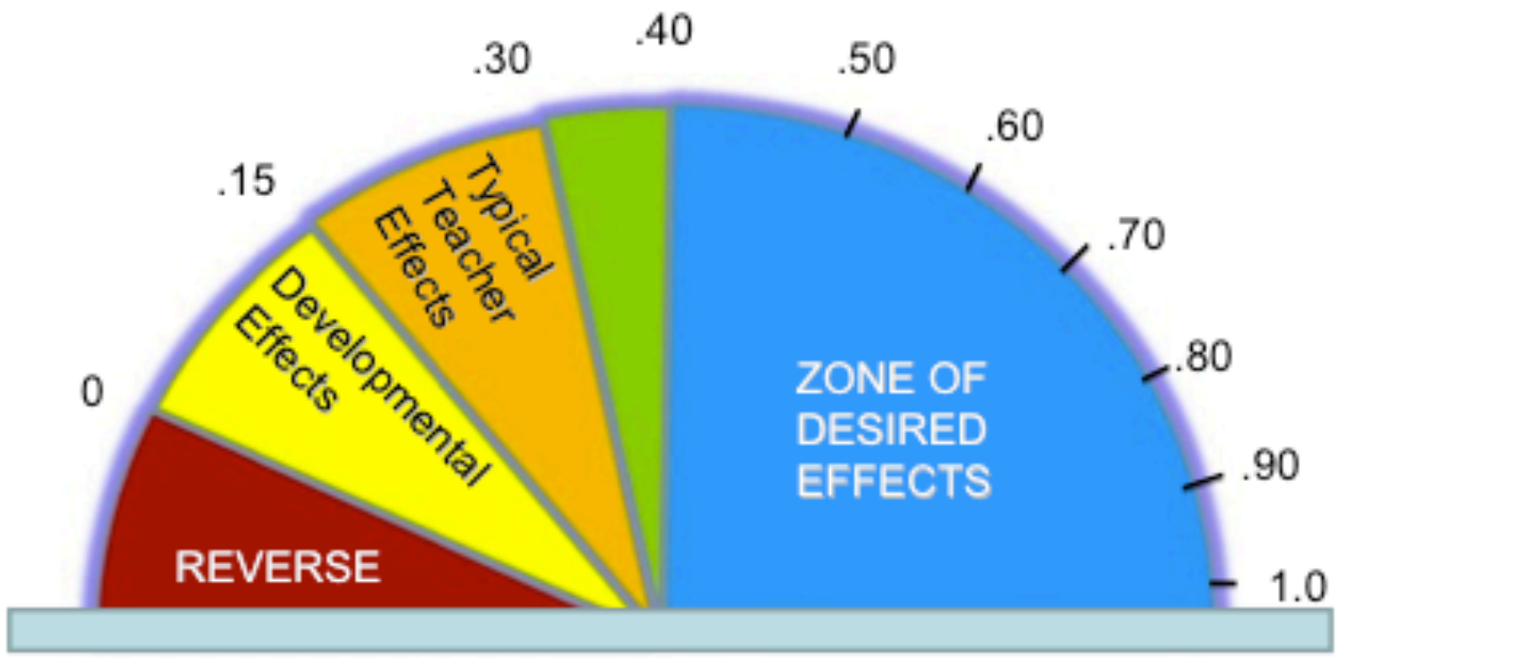
Effect Size

- a scale used to evaluate the effect of various interventions on student learning
- measures the amount of change
- effect size of 0.3 is barely noticeable
- effect size of 0.7 is clearly noticeable



50,000 studies

Influences on Achievement



Visible Learning Laboratories

Hinge Point

Influences on student learning

John Hattie 1999-2009 – research from 180,000 studies covering almost every method of innovation

Method of Innovation	Effect Size
Feedback	0.73
Teacher-Student Relationships	0.72
Mastery Learning	0.58
Challenge of Goals	0.56
Peer Tutoring	0.55
Expectations	0.43
Homework	0.29
Aims & Policies of the School	0.24
Ability Grouping	0.12

Short List

Summary

The combination of greatest effects occur when learners can confidently answer these three questions:

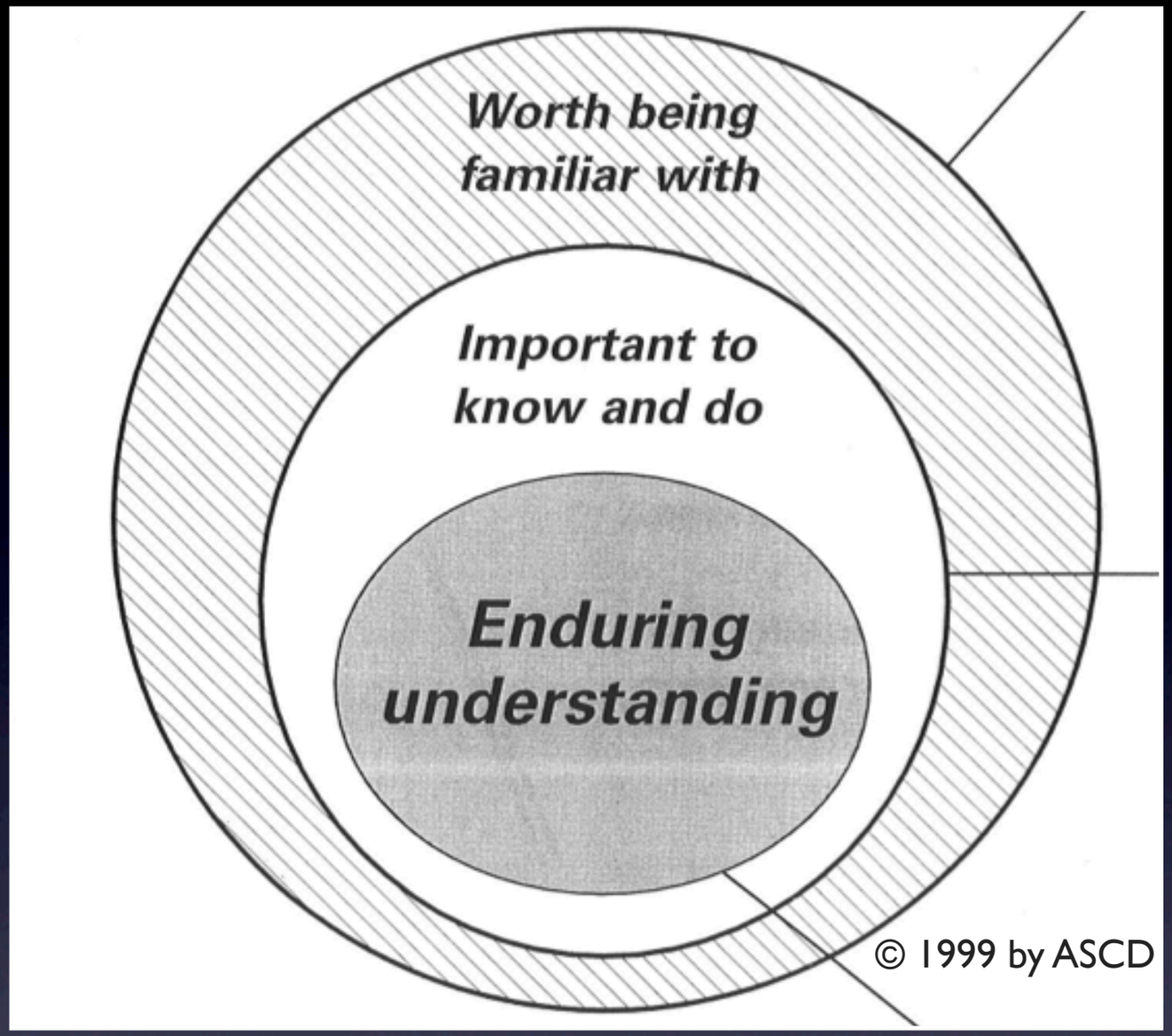
1. **What are you learning?**
2. **How is it (your learning) going?**
3. **Where to next?**

How do we get there?

There are:

- No silver bullets.
- No tips & tricks.
- No short cuts.

We need a framework

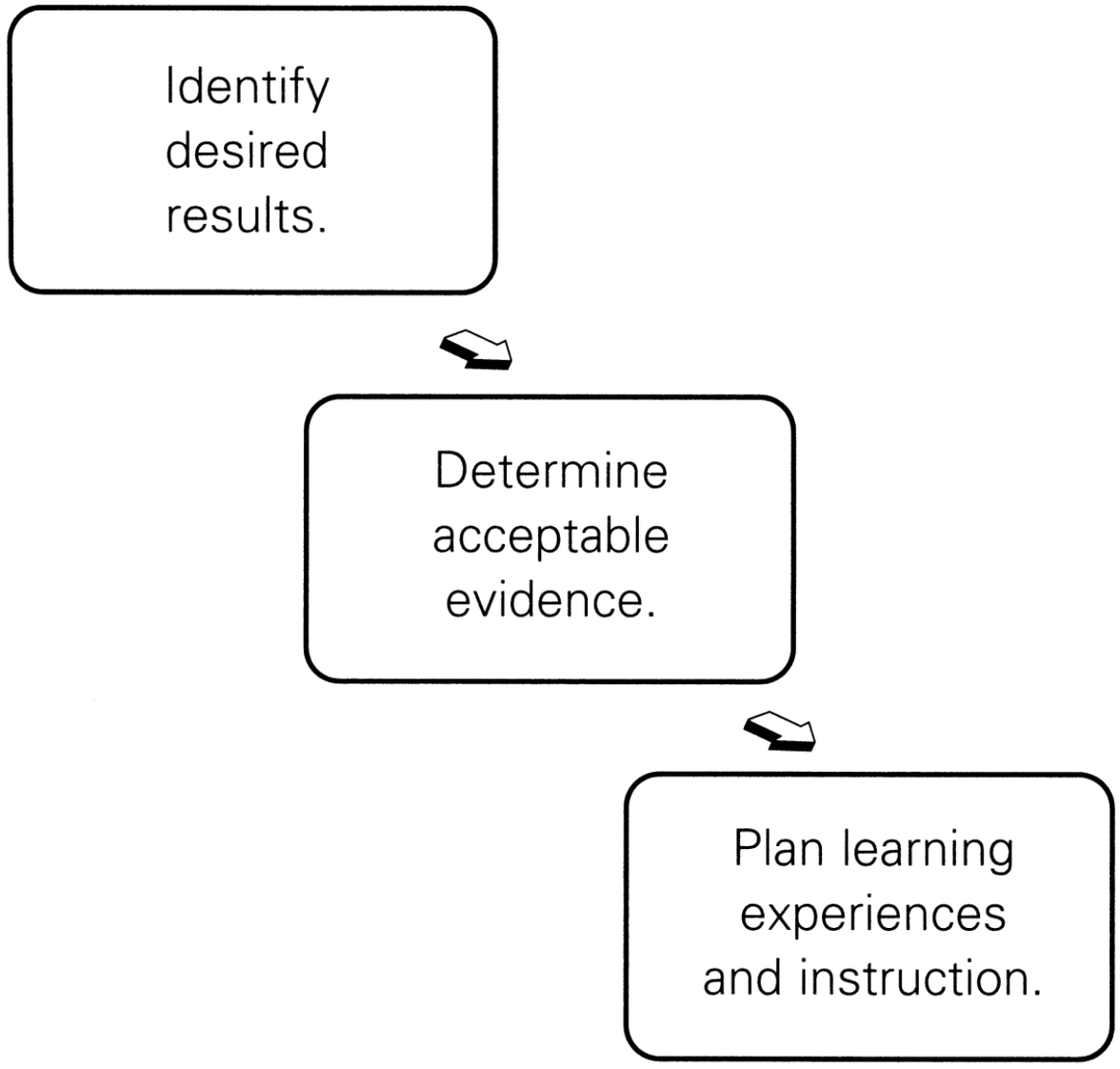


Start with Clear Learning Intentions

Use Specific Learning Targets that are:

- Aligned with the course curriculum
- Prioritized using Backward Design
- Written in student-friendly language

FIGURE 1.1 **STAGES IN THE BACKWARD DESIGN PROCESS**



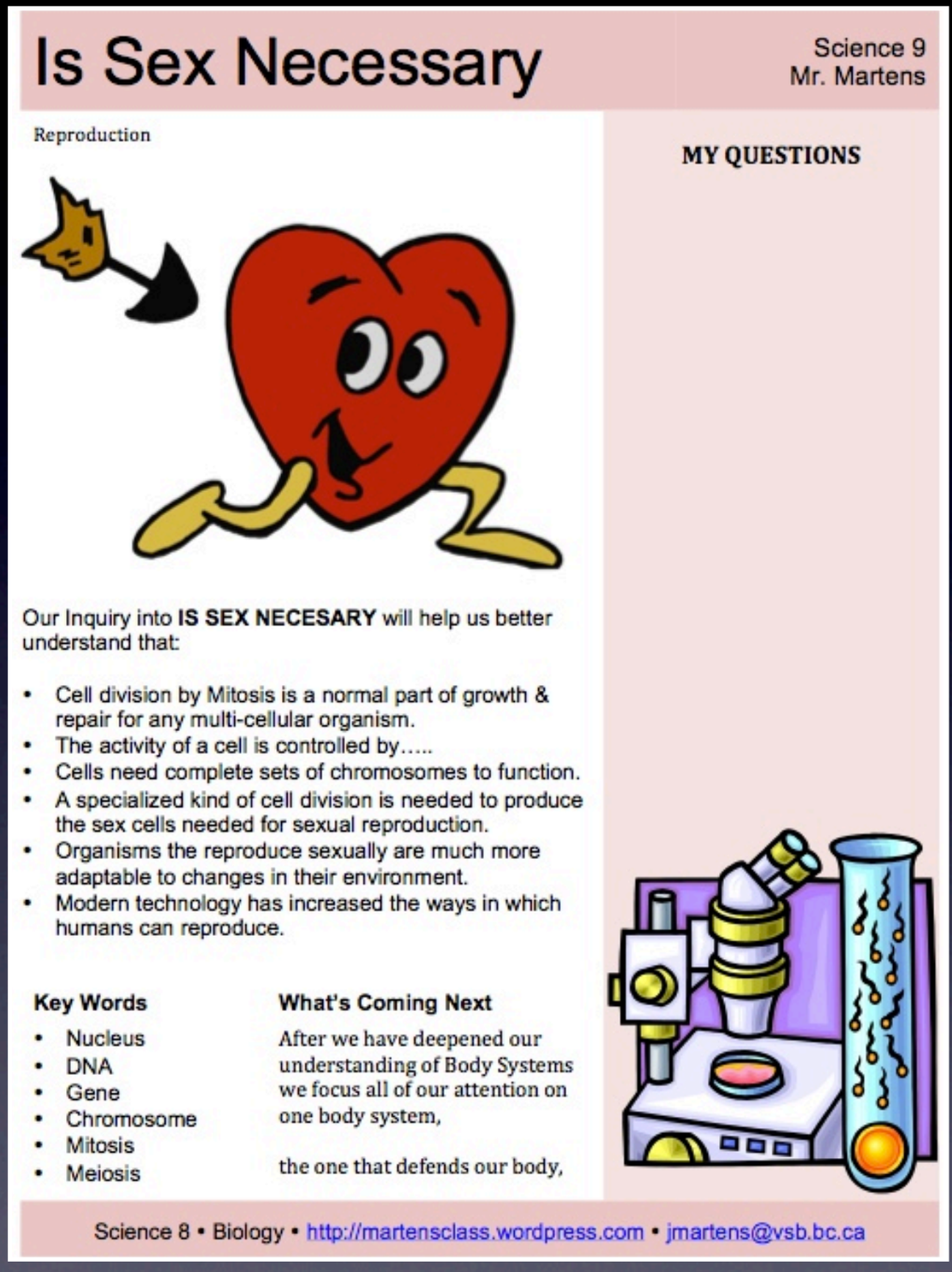
Work Backwards

Clear Learning Intentions

The Process I have used:

1. Photocopy "Suggested Achievement Indicators"
2. Re-write/Revise to make "student friendly"
3. Separate into Know's & Do's
4. Articulate the "Big Ideas" using KUD
5. Make a "flashy" newsletter

Sc 9 Unit Plan
Reproduction
(draft version)



Is Sex Necessary

Science 9
Mr. Martens

Reproduction

Our Inquiry into **IS SEX NECESARY** will help us better understand that:

- Cell division by Mitosis is a normal part of growth & repair for any multi-cellular organism.
- The activity of a cell is controlled by…..
- Cells need complete sets of chromosomes to function.
- A specialized kind of cell division is needed to produce the sex cells needed for sexual reproduction.
- Organisms the reproduce sexually are much more adaptable to changes in their environment.
- Modern technology has increased the ways in which humans can reproduce.

Key Words

- Nucleus
- DNA
- Gene
- Chromosome
- Mitosis
- Meiosis

What's Coming Next

After we have deepened our understanding of Body Systems we focus all of our attention on one body system,

the one that defends our body,

MY QUESTIONS

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More at:
http://martensvsb.wordpress.com/unit-plans/