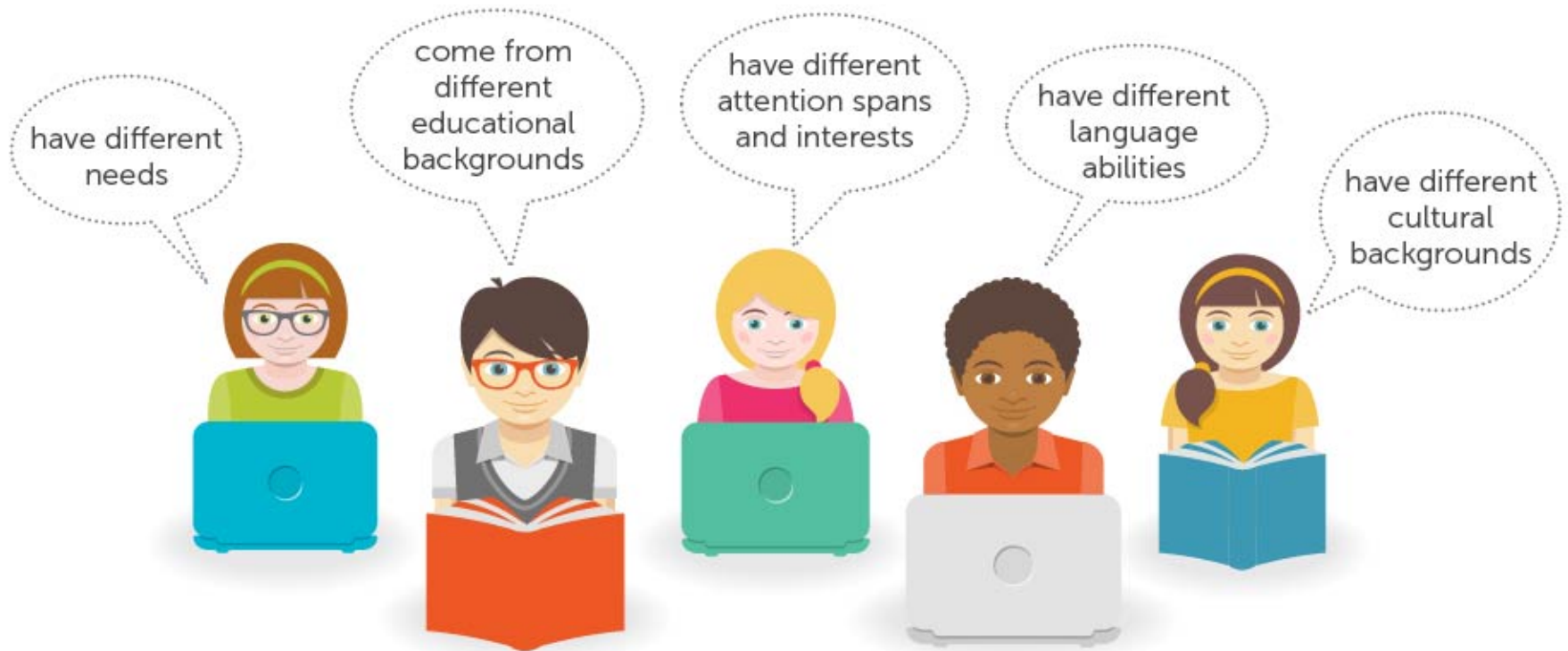




Knewton Overview

WHY DIFFERENTIATED INSTRUCTION?

Classrooms are filled with students who:



What is **DIFFERENTIATED INSTRUCTION?**

**Differentiation means
tailoring instruction to
meet individual needs.**

Differentiated
instruction aims to:



improve
learning
outcomes



increase
engagement



inspire a love
of learning



increase
self-awareness



help students
learn more
efficiently and
with deeper
understanding

Building for the future



185

TOTAL EMPLOYEES

8
PRODUCT MGMT.

4
R&D

4
BUSINESS
DEVELOPMENT (US)

8
ADAPTIVE INSTRUCTION

17
CORPORATE,
RECRUITING &
LEGAL

10
INFRASTRUCTURE

7
CUSTOMER SERVICE

7
MARKETING

45

ADAPTIVE LEARNING

1
BUSINESS
DEVELOPMENT
(APAC)

2
PRODUCT DESIGN

3
BUSINESS
DEVELOPMENT (UK)

15

IMPLEMENTATION (US)

5
IMPLEMENTATION (UK)

49

ENGINEERING

Knewton's mission is to bring personalized learning to the world

PEARSON

MACMILLAN
EDUCATION

CENGAGE
Learning®

CAMBRIDGE
UNIVERSITY PRESS

triumphlearning™

gutenberg technology

Houghton Mifflin Harcourt

MALMBERG
a Sanoma company

sebit

lelivrescolaire.fr

sanoma

CHUNG DAHM
청담어학원

GYLDENDAL
UNDERVISNING

adaptive
curriculum

ELSEVIER

SANTILLANA

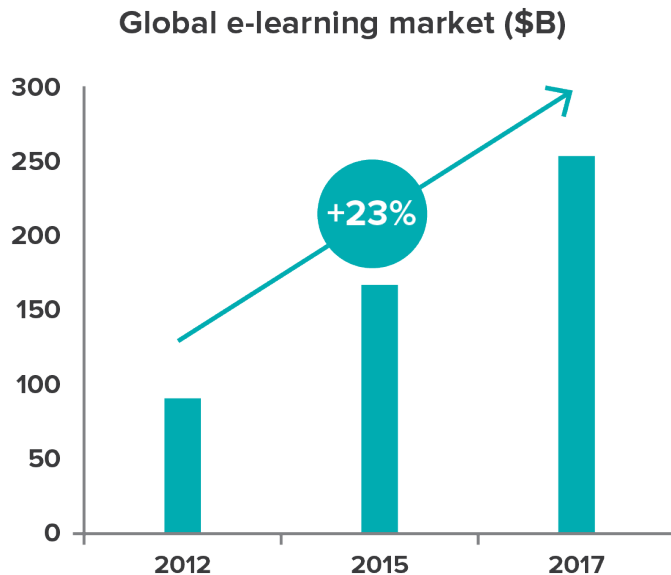
sesameworkshop.

The
Electric
Company

WIZARD
VOCÊ BILÍNGUE

Why now?

Materials and classes
moving online...



Source: GSV Advisors estimate via Bank of America Merrill Lynch (Nov 2013)

...improving access,
facilitating personalization

Google™

NETFLIX

PANDORA®
internet radio

amazon.com

Baidu 百度

peixurbano
exploring the city

Big data transforming many industries

Leading tech companies analyze user interaction patterns to recommend the best content, improve engagement, and tailor experiences for individuals.



Search



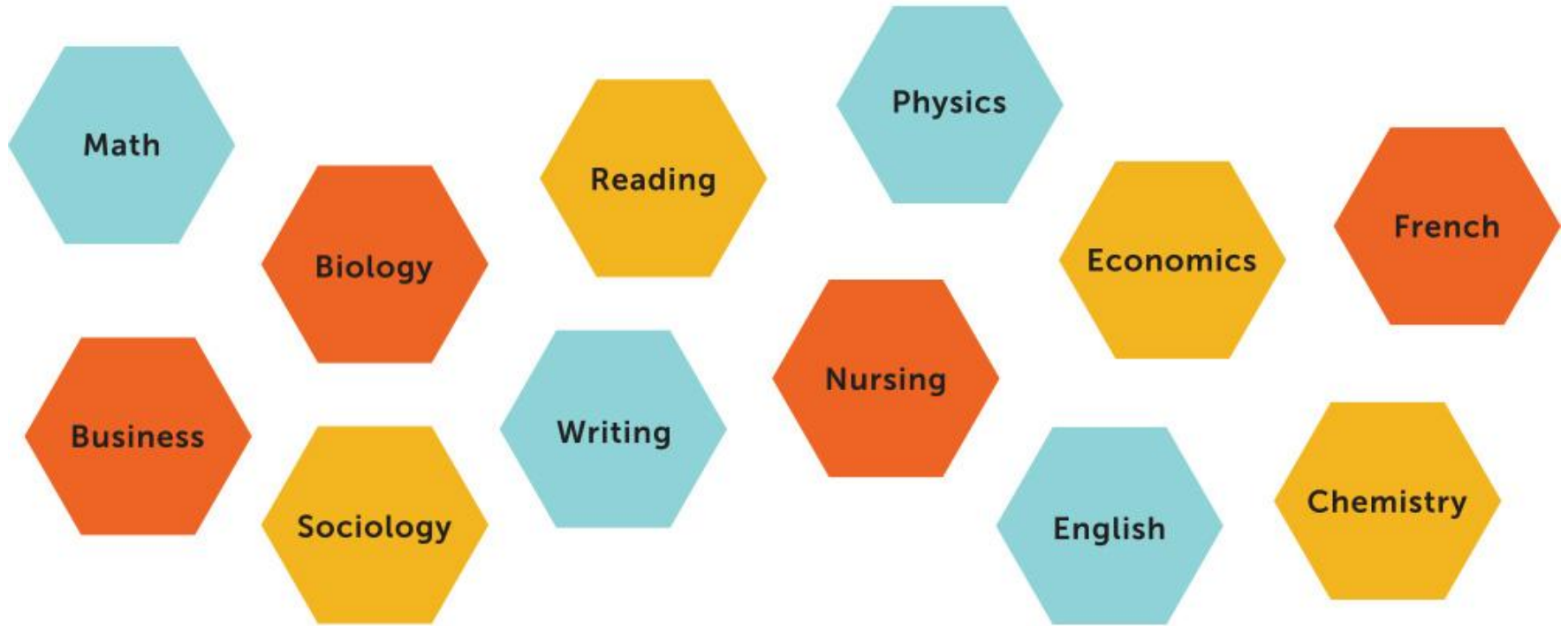
Entertainment



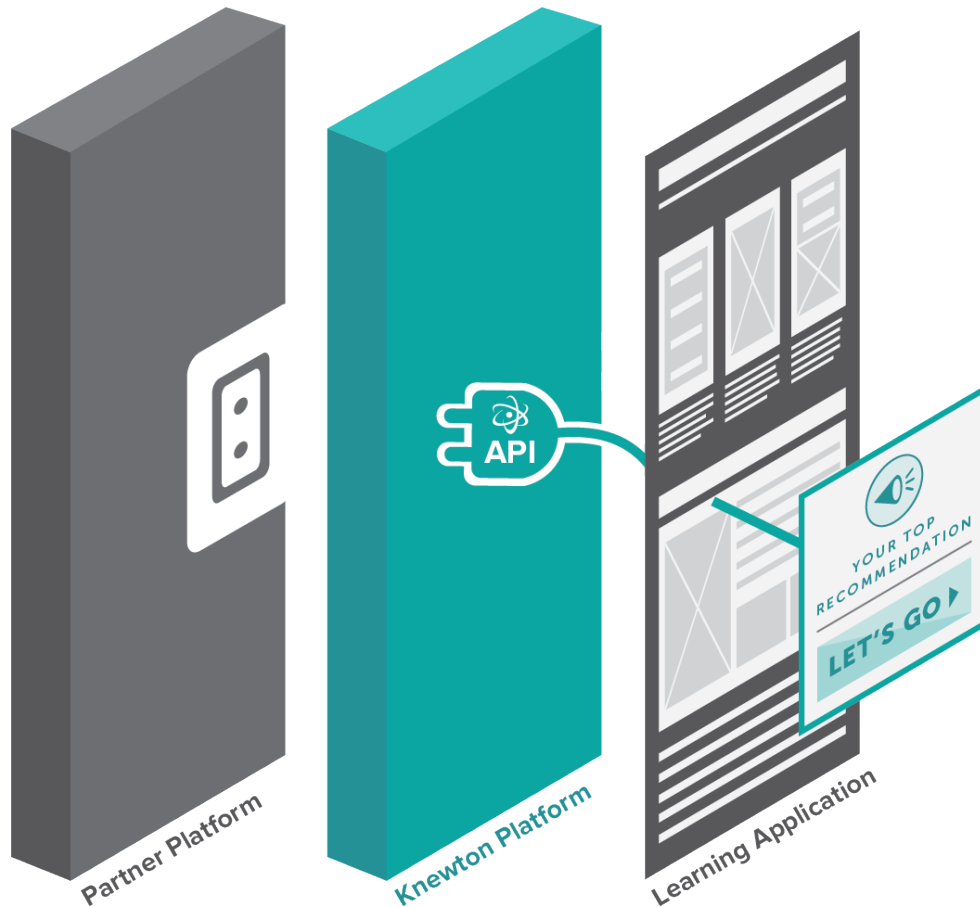
Retail

Knewton uses similar machine learning algorithms to improve student learning outcomes, analyzing what a student's pattern of behaviors and responses really say about their understanding of educational material.

Across subject areas and grade levels



Our technology: The Knewton API

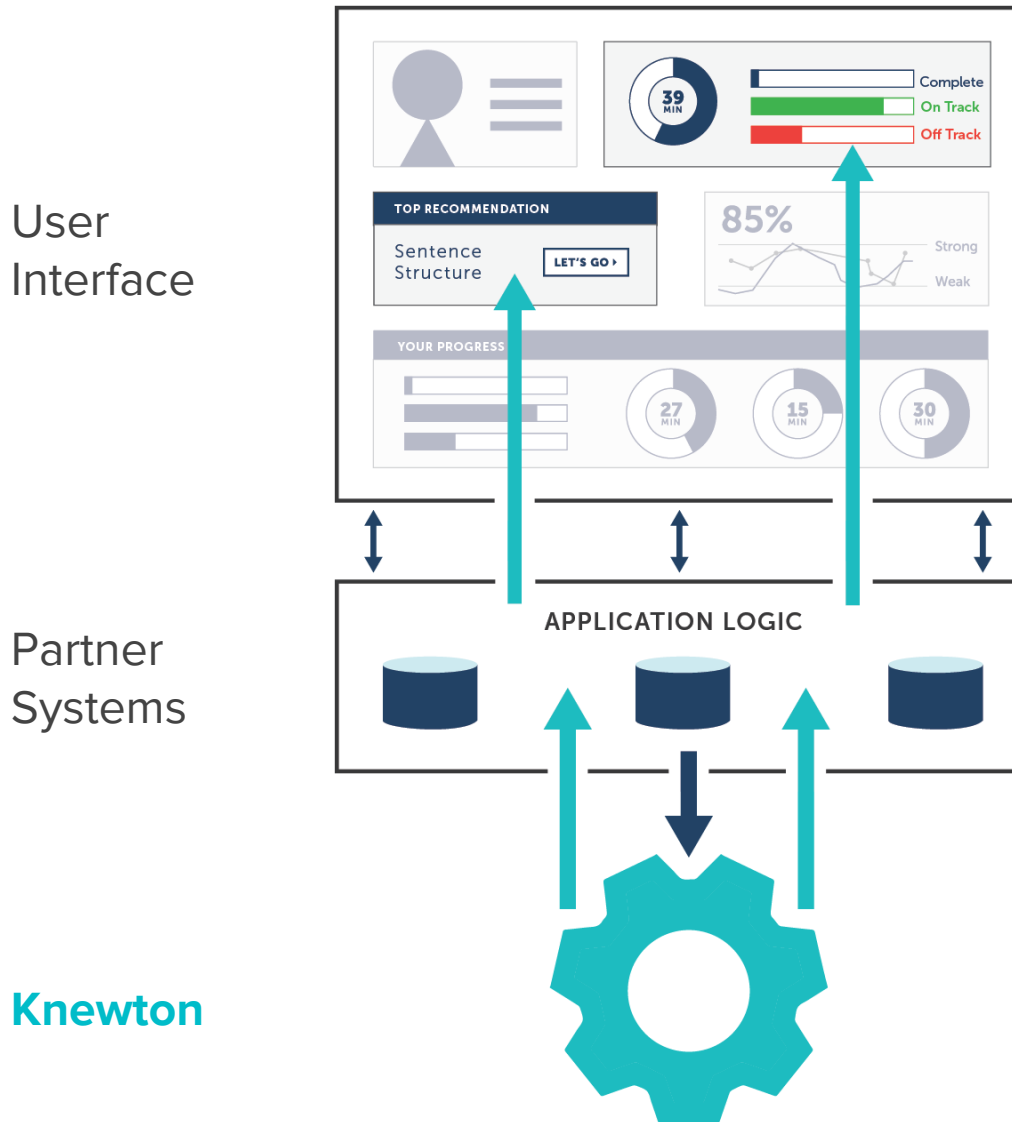


Knewton's adaptive engine is embedded within learning applications to deliver:

- The **right piece of content** at the **right time** for each learner.
- **Actionable data** about student progress, proficiency, engagement, and more.

Knewton is an “intelligence layer” within any kind of learning app. The visual look and feel and the educational content itself are created by Knewton's publisher partners.

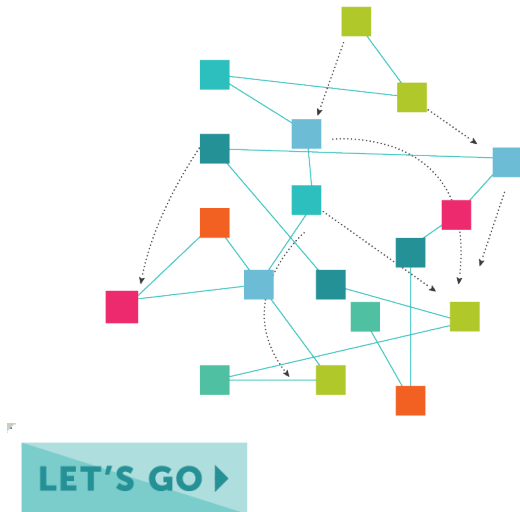
Powering dynamic personalization



What the Knewton API provides

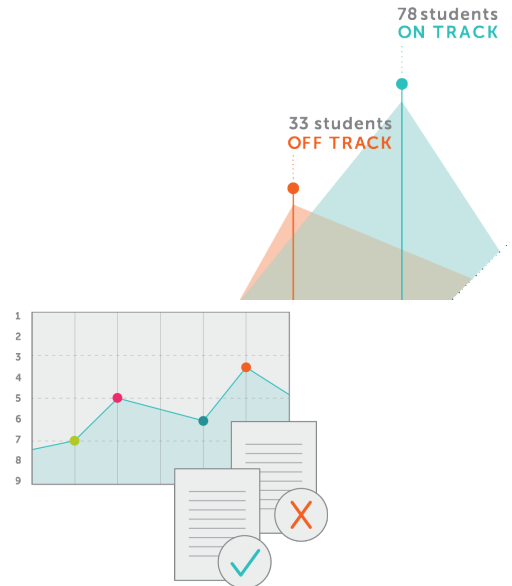
Recommendations

guide each student to the **right content to tackle next** within the partner's pool of recommendable content.



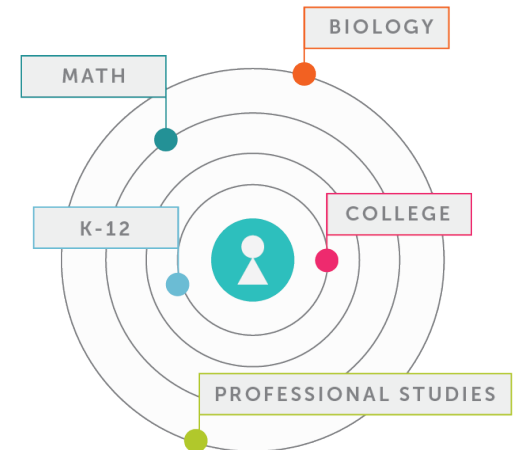
Analytics

provide underlying **insights on proficiency, engagement, and more** to teachers, parents, and students.



Learning histories

allow students to **start warm** in new courses, drawing on previously demonstrated learning preferences and gaps.



Student Recommendations

Goals set

Teacher/administrator
determines proficiency
level and time frame

Student events

Students interact with
learning product,
revealing learning needs

Recommendation

Knewton delivers the
right piece of content at
the right time to optimize
learning

Learning history

A wealth of data on
previously demonstrated
student proficiencies
and preferences



What generates the recommendation?

Content Factors



**MODULE
RELATIONSHIPS**



**INSTRUCTIONAL
VALUE**



**ASSESSMENT
VALUE**



**QUESTION
DIFFICULTY**



**CONTENT
DURATION**



ENGAGEMENT

Learner Factors



**LEARNER
PROFICIENCIES**



**ASSESSMENT
NEEDS**



**NEED FOR
REMEDIATION**



**WHERE TO MOVE
FORWARDS**



**LEARNER
PACE**



**REPETITION OF
MATERIAL**

Goal Factors



**TARGET
MODULES**



**TARGET
SCORES**



**TARGET
DATES**

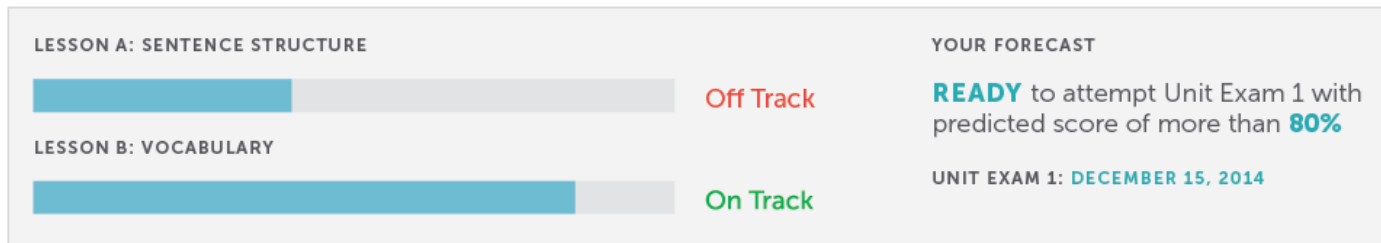
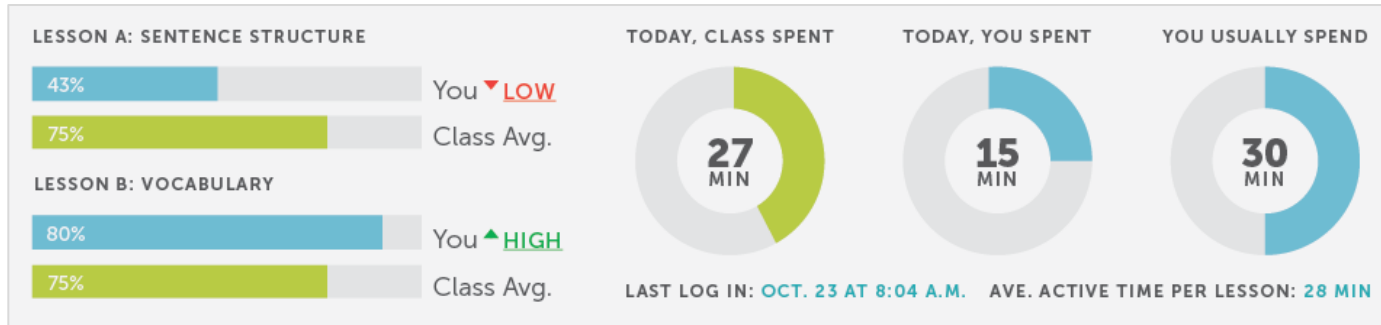


**MULTIPLE
SCORES/DATES**



**RECOMMENDABLE
MODULES**

Learning analytics



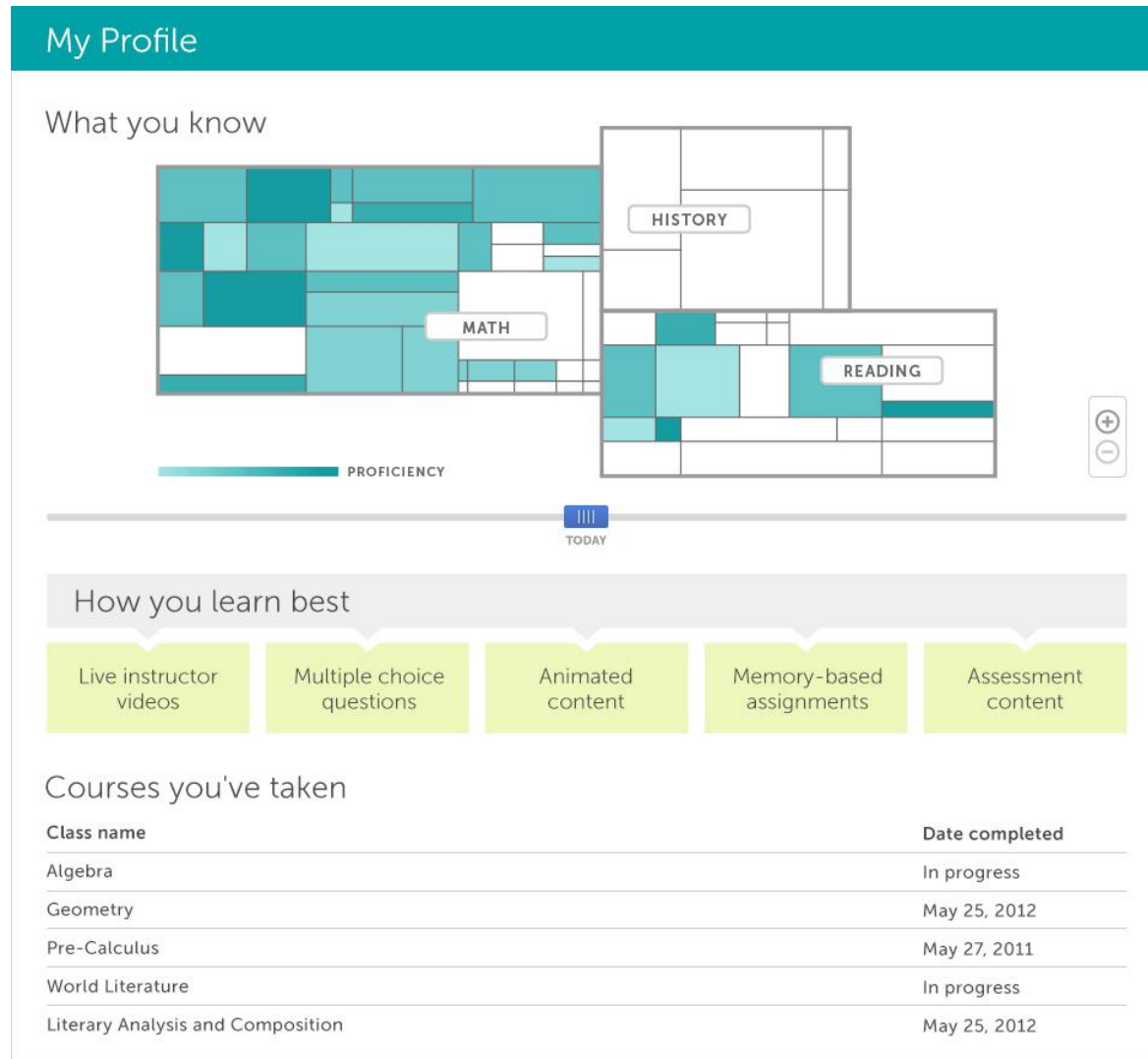
Off Track

- > 17 students with scores under 70%
- > 7 students with scores under 70% and fewer than X test attempts
- > 10 students with scores under 70% and more than X test attempts

On Track

- > 17 students with scores under 70%
- > 7 students with scores under 70% and fewer than X test attempts
- > 10 students with scores under 70% and more than X test attempts

Learner profiles

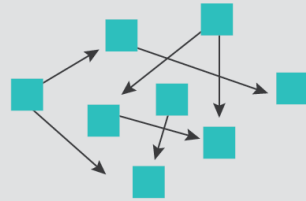


Data Models

A top-down, high-angle photograph of two students sitting on a light-colored wooden plank floor. The student on the left is a man with dark hair, wearing a grey long-sleeved shirt and dark pants, sitting cross-legged with his back to the camera. A laptop is open on the floor to his left. The student on the right is a woman with blonde hair tied in a ponytail, wearing a white long-sleeved shirt and dark pants, sitting with her back to the camera and holding an open book. To her right is a black backpack. In the upper left, there is a black bag containing a spiral notebook and a smartphone. The entire image has a dark, teal-blue overlay, and the title 'Data Models' is written in large white text across the center.

Knewton Data Model

Knowledge Graph



Structured prerequisite ontology of partner concepts, based on partner's content pedagogy

Student Events



Ongoing data stream sent by partner products to Knewton for each student interaction

Goal Management



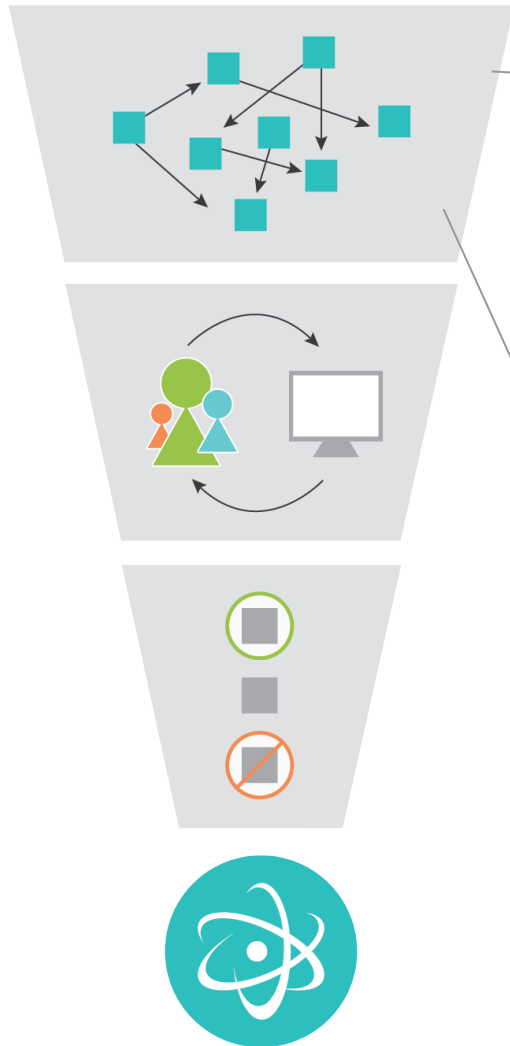
Target assessments and concepts, their due dates and target scores; restrictions to accommodate use cases

Recommendations & Analytics API



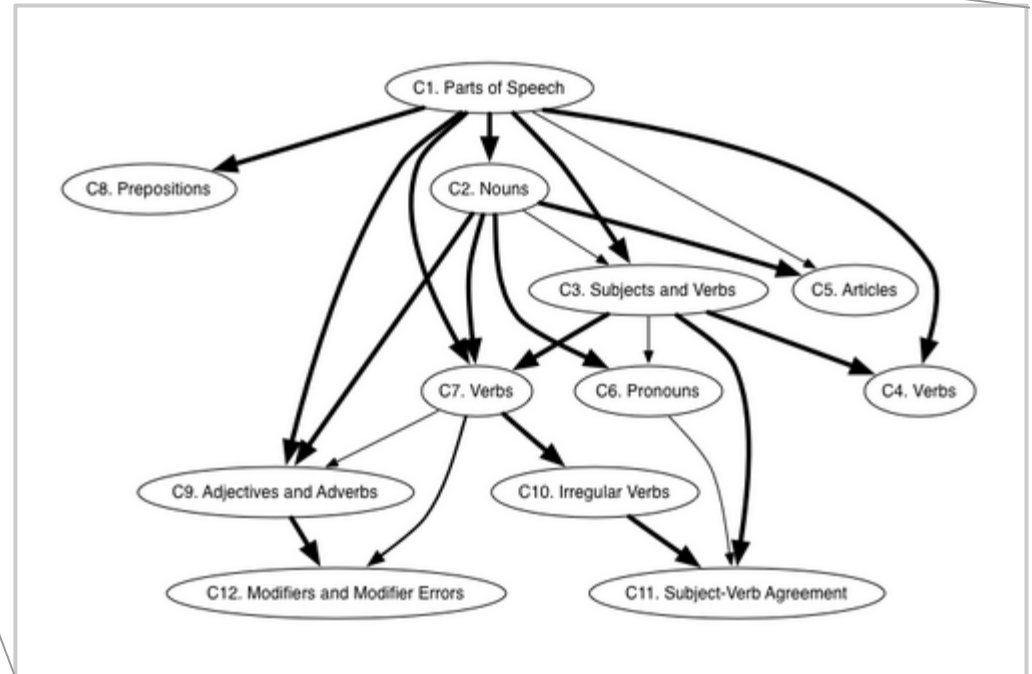
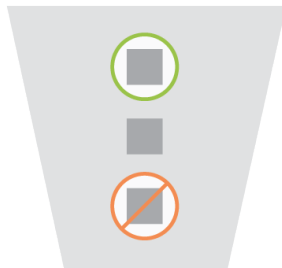
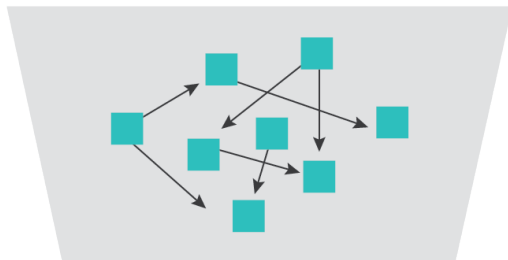
Continuously personalized content recommendations; Analytics API with inferred metrics on proficiency, progress, engagement

Content Mapping

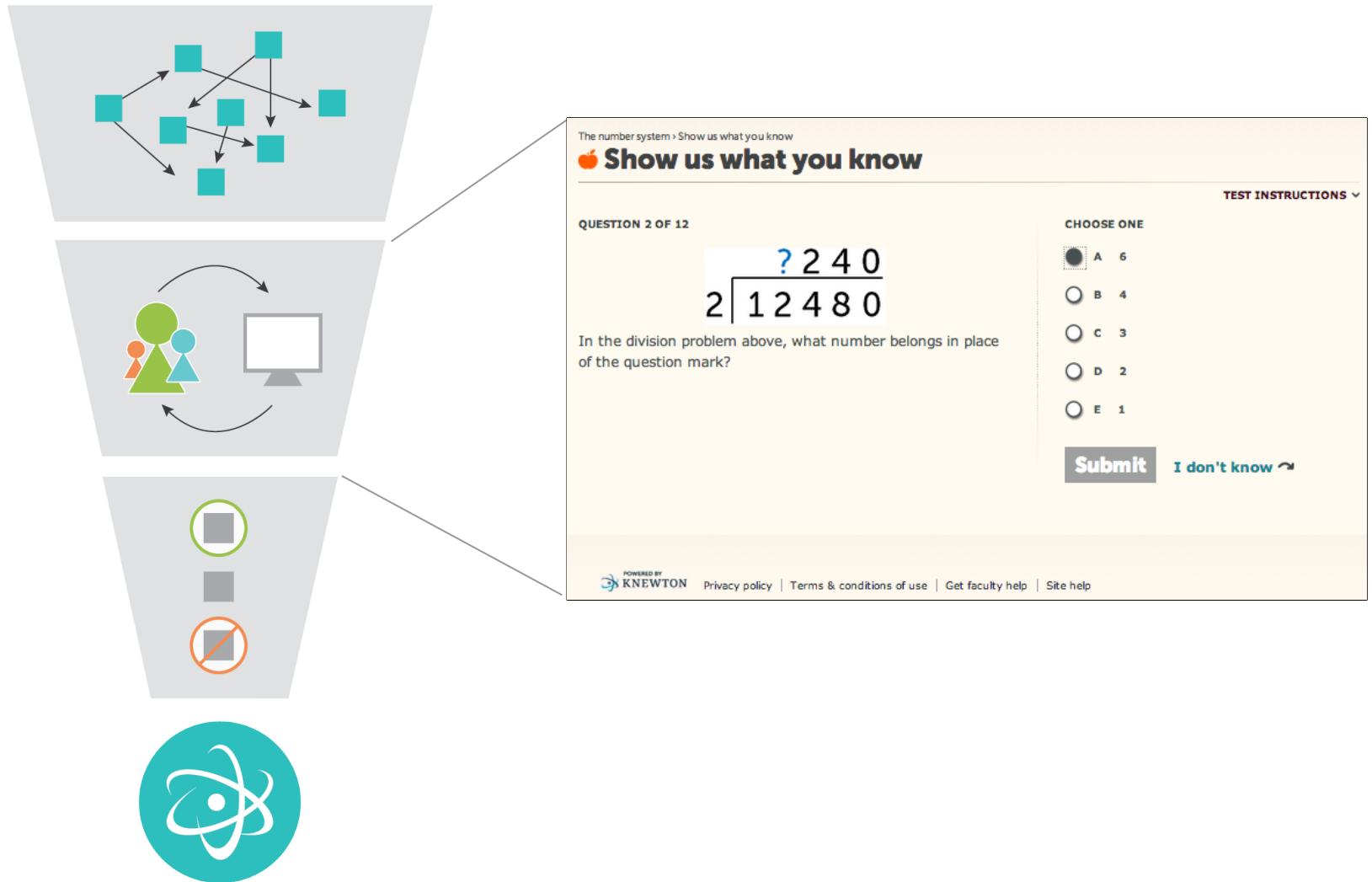


Writing Modules
– Module W1: Basic Grammar
– W1.1 Parts of Speech, Phrases, and Clauses
▶ Identify how different parts of speech function in sentences.
▶ Identify how different types of phrases and clauses function in sentences.
▶ Apply knowledge of this topic within the context of a paragraph.
▶ Write to demonstrate knowledge of parts of speech, phrases, and clauses.
– W1.2 Subjects and Verbs
▶ Identify simple subjects.
▶ Identify compound subjects.
▶ Identify the understood or implied "you" as a subject.
▶ Identify complete verbs.
▶ Identify compound verbs.
▶ Apply knowledge of this topic within the context of a paragraph.
▶ Write to demonstrate knowledge of subjects and verbs.
+ W1.3 Nouns
+ W1.4 Pronouns
+ W1.5 Articles

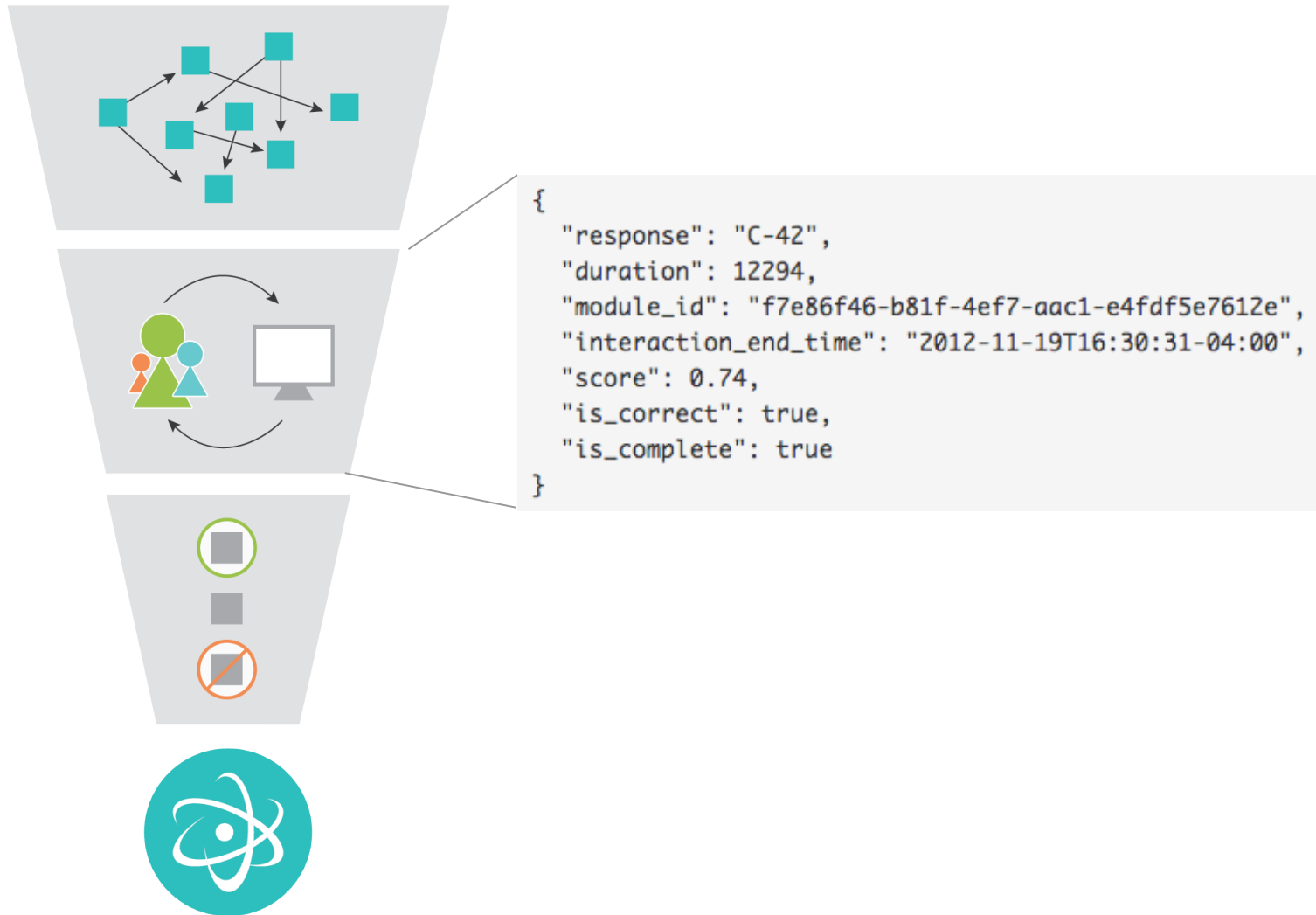
Content Mapping



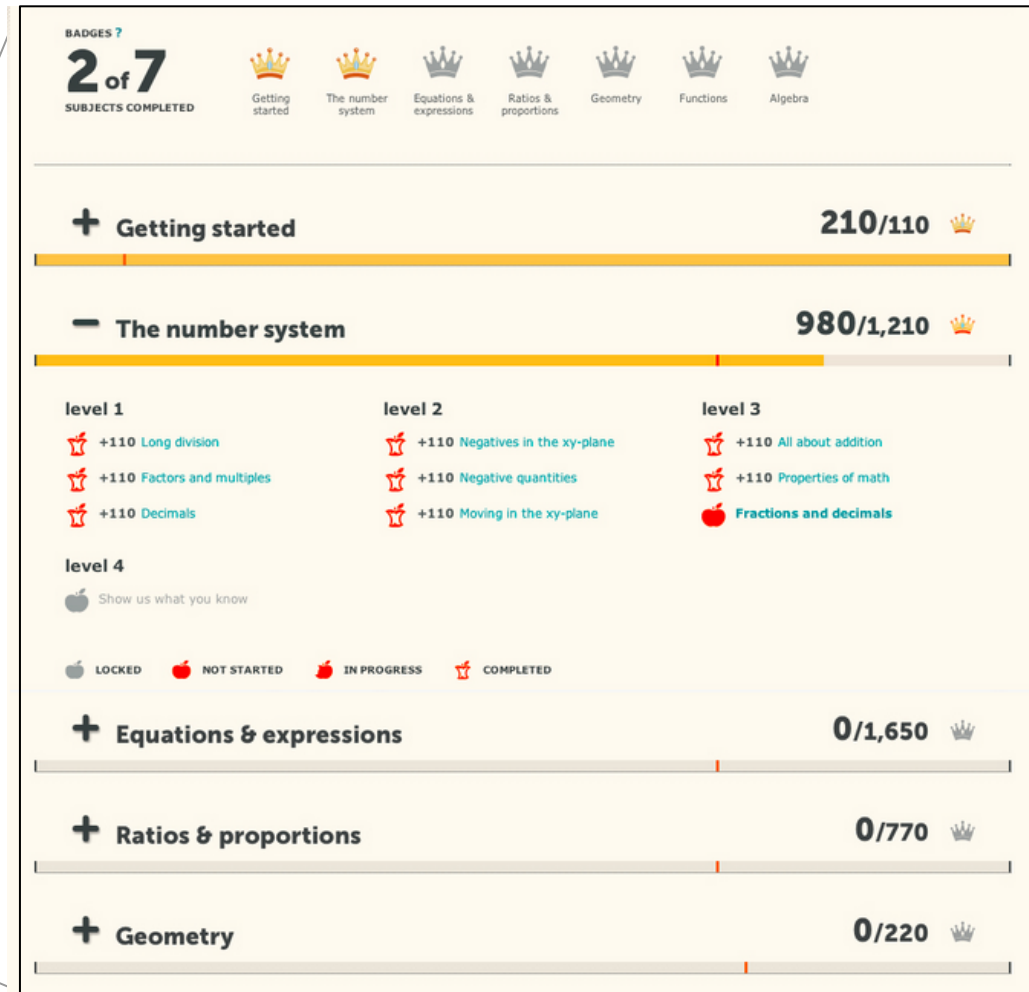
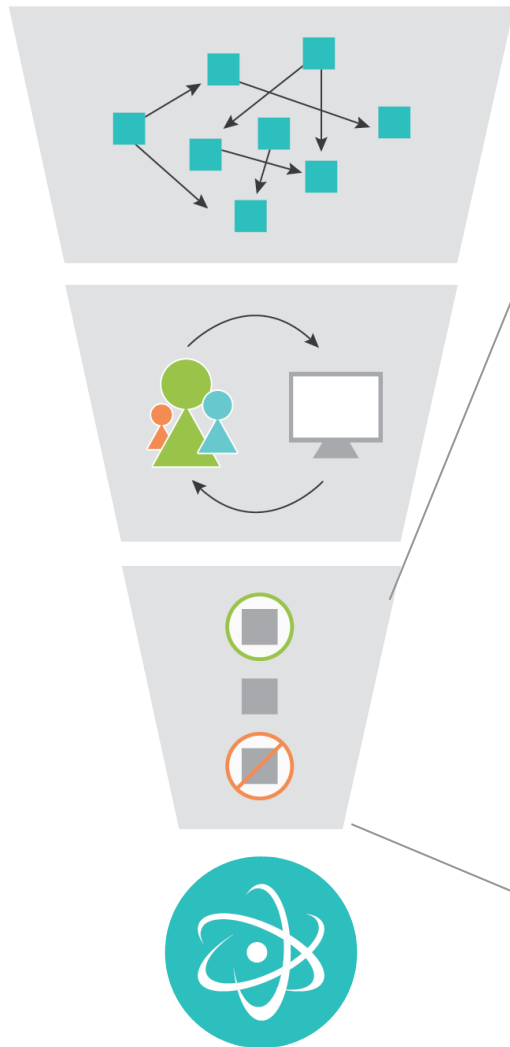
Stream of Student Data



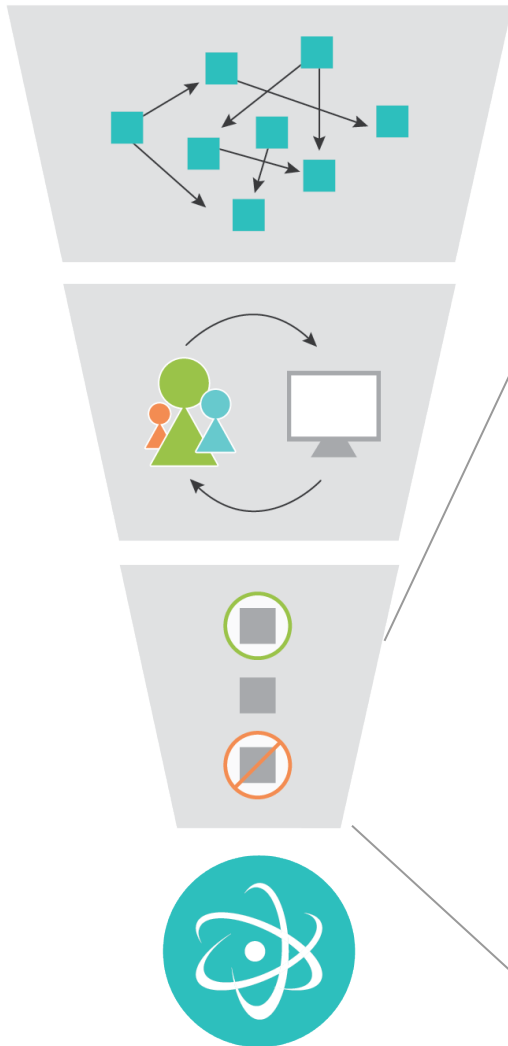
Stream of Student Data



Goals

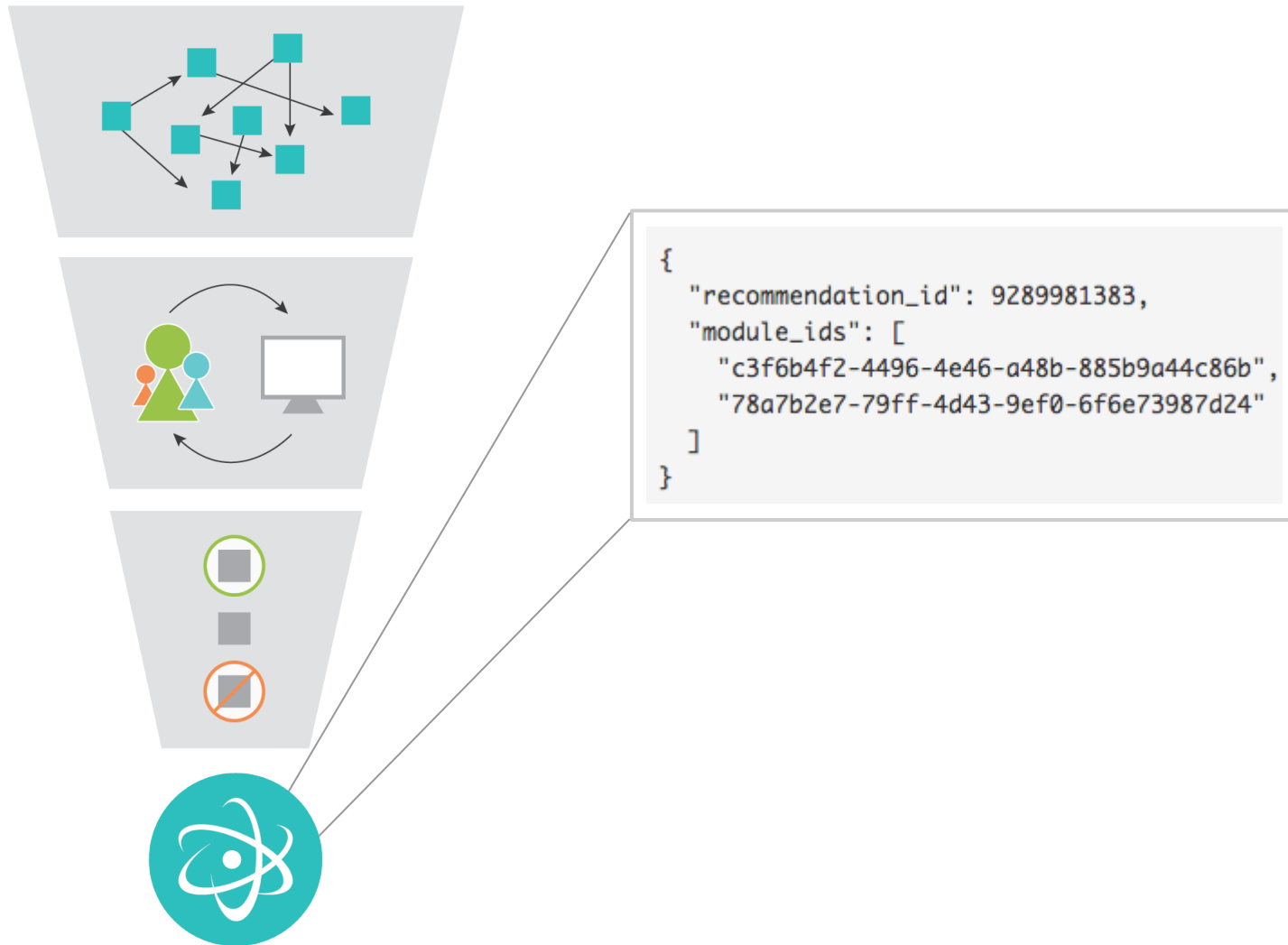


Goals



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    "37a5760a-f59e-4457-92b8-6f1fa7246dbf",  
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}
```

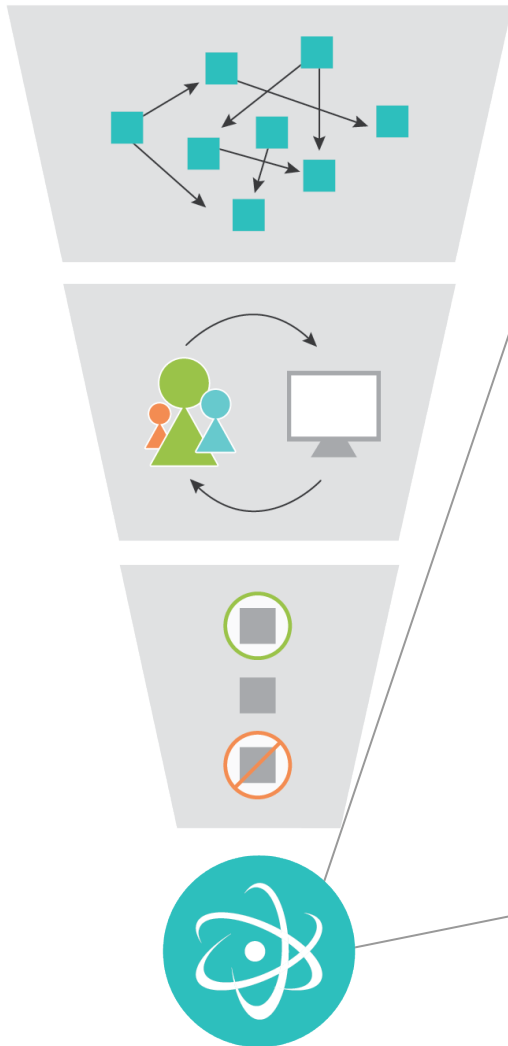
Deliver Personalized Results



Deliver Personalized Results

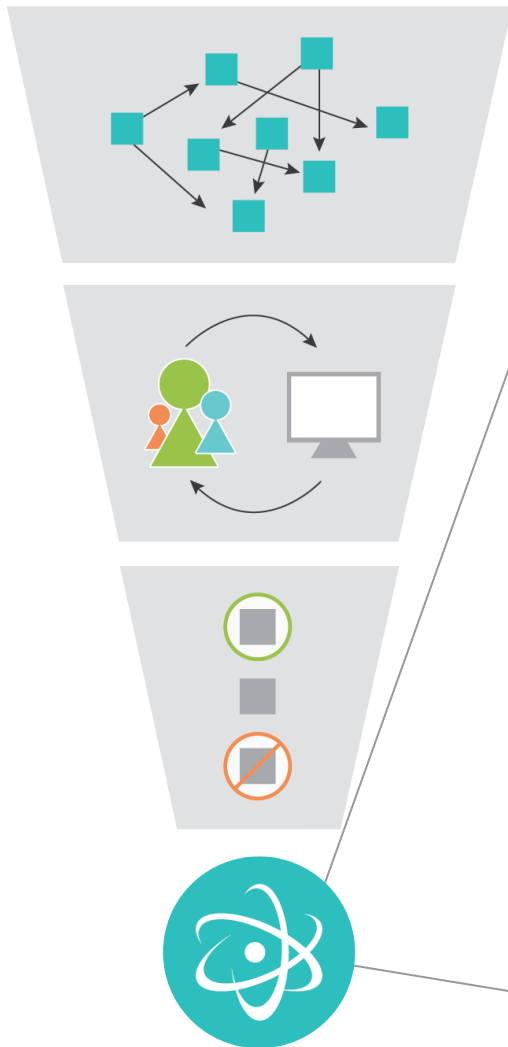


Inferred Metrics

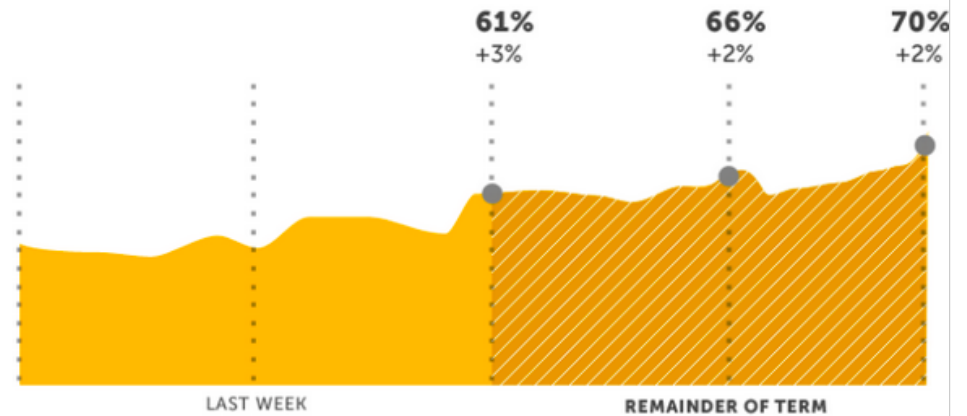


```
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          "target_modules": [
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                    0.9
                  ],
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                },
                {
                  "point_estimate": 0.74,
                  "confidence_interval": [
                    0.6,
                    0.9
                  ],
                  "estimate_date": "2013-10-28"
                }
              ]
            }
          ]
        }
      ]
    }
  ]
}
```

Inferred Metrics



PROFICIENCY IN BIOLOGY OVER TIME



ON TRACK

70%



5
Not started



7
Off track



18
On track



3
Complete

STUDENT	CONCEPT STUCK ON	PROFICIENCY
Brighton, Amanda	ATP and Energy	30 +3%
Center, Madison	Lipids	30 -11%
Fanning, Mollie	Lipids	10 -9%
Jackson, Cynthia	Carbohydrates	15 -3%

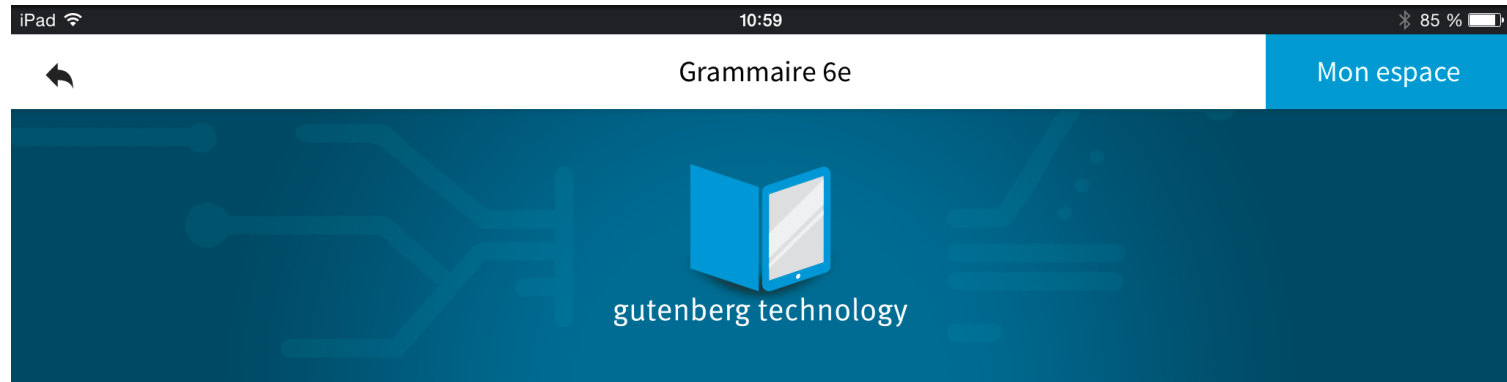


Product Implementations

Common Integration Approaches

Approach	Description
A Managed Adaptivity	<ul style="list-style-type: none">● Milestones are pre-determined● Recommendations drive primary activity● Student is strongly guided through curriculum● Recommendations dictate all content delivery
B Blended Adaptivity	<ul style="list-style-type: none">● Teachers/Students have control over milestones● Recommendations drive activity toward milestones once set● Students dynamically guided through syllabus● Recommendations share responsibility content delivery
C Adaptive Follow-up	<ul style="list-style-type: none">● Students receive differentiated activities after assignments● Recommendations are focused on a specific assignment● Struggling students guided through learning gaps; high performers recommended enrichment
D Personalized Study Plan	<ul style="list-style-type: none">● Course-mastery model (milestones are often distinct concepts)● Recommendations present activities to supplement course work● Recommended content can be required or optional

Gutenberg Technology - Student



1. LA PHRASE VERBALE ET LA PHRASE NON VERBALE	👁
2. LA PHRASE SIMPLE ET LA PHRASE COMPLEXE	👁
3. LES QUATRE TYPES DE PHRASES	👁
4. LES DEUX FORMES DE PHRASES	👁
5. JE VÉRIFIE MES CONNAISSANCES ! (CHAPITRE 1 - 4)	👁
6. LE VERBE	👁

Gutenberg Technology - Student

iPad 11:03 84 %

◀ 1 2 3 4 5 6 7 8 9 10 ▶

Ajoute un peu de lait dans ta soupe.

Précédent

Suivant

Valider



4 À quel type appartient chacune de ces phrases non verbales ?

◀ 1 ▶

Chut !

Deux heures.

Pas du tout !

Pardon ?

Non merci.

Valider



La phrase interrogative : approfondissement



Gutenberg Technology - Student

iPad 11:03 84 %

Ajoute un peu de lait

4 À quel type

Chut ! exclamatif

Deux heures. déclaratif

Pas du tout ! exclamatif

Pardon ? interrogatif

Non merci. déclaratif

×

Bienvenue dans le programme d'entraînement personnalisé

Sur cette leçon, tu as déjà répondu correctement à 2 exercices

Pour encore t'améliorer, voici des leçons et exercices complémentaires. Tu seras ensuite guidé de manière intelligente vers les exercices et leçons les plus adaptés pour te permettre de maîtriser ces notions.

Tu peux à tout moment quitter ce programme d'entraînement personnalisé en appuyant sur le bouton bleu en bas à droite de l'écran

Entraînement personnalisé...

Les quatre types de phrases


Pour chaque phrase, posez une question partielle portant sur l'élément en gras. Vous utiliserez un niveau de langue soutenu.


Les quatre types de phrases

Ai-je bien compris la leçon ?

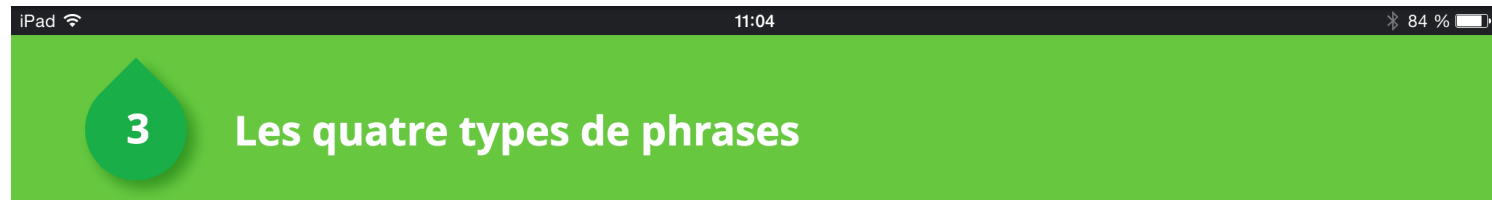
Les quatre types de phrases

Identifiez le niveau de langue des questions suivantes.

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Gutenberg Technology - Student



9 Identifiez le niveau de langue des questions suivantes.



Tu manges à la cantine aujourd'hui ?

- ☐ Familier
- ☐ Courant
- ☐ Soutenu



Gutenberg Technology - Student







iPad

11:11

83 %

←

Grammaire 6e



2 notions sélectionnées

Démarrer l'entraînement personnalisé >

^ NOTIONS A RÉVISER !

☒ Les quatre types de phrases

★ ★ ★ ★ ★ >

☒ La phrase simple et la phrase complexe

★ ★ ★ ★ ★ >


☐ La phrase verbale et la phrase non verbale

★ ★ ★ ★ ★ >

v NOTIONS EN COURS !

v NOTIONS MAÎTRISÉES

Powered by

 KNEWTON

Gutenberg Technology - Student

iPad

11:17

82 %

1

La phrase verbale et la phrase non verbale

Retenons

Qu'est-ce qu'une phrase ?

Une phrase est une **suite de mots qui a un sens**.

- *Suite une est mots phrase de une* ne constitue pas une phrase.

Une phrase peut parfois être constituée d'un seul mot : • *Silence !* • *Venez*.

À l'écrit, une phrase **commence par une majuscule et se termine par une ponctuation forte** : un point (.), un point d'exclamation (!), un point d'interrogation (?), des points de suspension (...).

La phrase verbale

La phrase verbale est organisée autour d'un ou de plusieurs **verbe(s) conjugué(s)**.

• *La sorcière regarda l'enfant.* • *La sorcière regarda l'enfant et mit de l'eau à bouillir.*

Un verbe seul, à l'impératif, peut constituer une phrase verbale. • *Sortez !*

La phrase non verbale

Certaines phrases ne comportent **pas de verbe conjugué** : on dit qu'elles sont **non verbales**.

• *Incroyable...* • *Combien ?* • *Oui.* • *Chut !* • *Ne pas dépasser les doses prescrites.*

Quand une phrase non verbale est organisée autour d'un **nom**, on parle de **phrase nominale**.

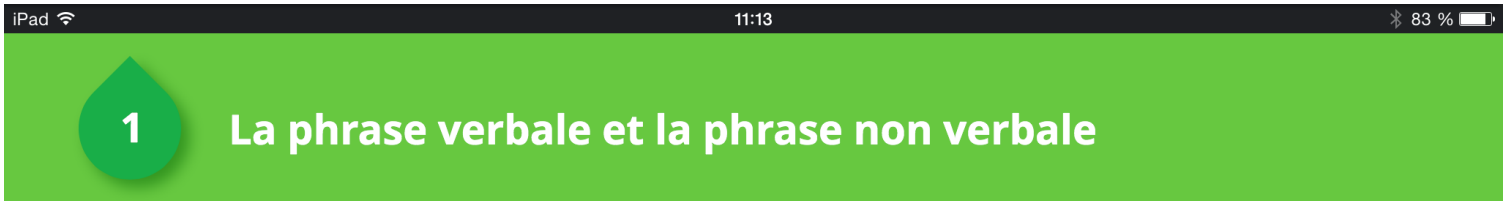
• *Paul !* • *Un instant.*

L'emploi des phrases non verbales

Recommandation suivante



Gutenberg Technology - Student



3 Former une phrase correcte

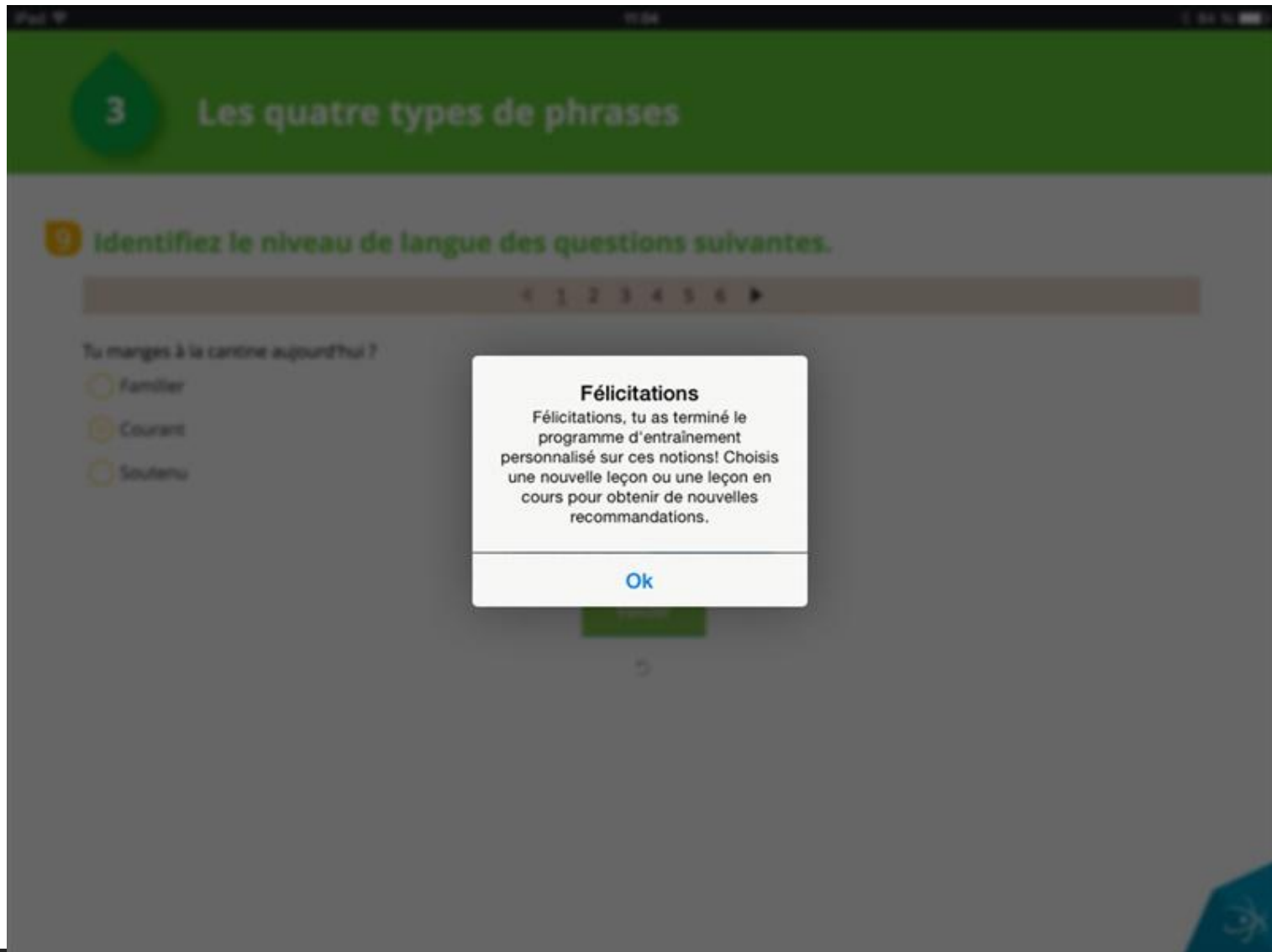
Dans les mots ou les groupes de mots suivants, relevez ceux qui forment une phrase.

- ☐ Il fut un temps où les hommes ne craignaient plus les dieux.
- ☐ Ils ne se respectaient plus entre eux, se disputaient sans cesse, se jalousaient, se trahissaient, s'entretuaient.
- ☐ Quel déluge !
- ☐ De plus,
- ☐ Réunirent les dieux se.
- ☐ Jupiter fit éclater.
- ☐ Quand il se mit à pleuvoir.

Valider



Gutenberg Technology - Student



Math Readiness - Student

The screenshot shows a web browser window displaying the Knewton Math Readiness student dashboard. The page has a light beige background with a white header bar. The header bar contains the Knewton logo, the text 'Knewton Math Readiness BETA', and links for 'Help', 'Change password', 'Logout', and 'MY DASHBOARD'. Below the header, a large 'Welcome, Katie' message is followed by a 'Next activity' section. This section includes a 'Warm up' icon and text, a 'From:' path 'The number system > level 1 > Decimals', and a large teal 'Let's go >' button. A horizontal line separates this from the 'STATUS ?' section, which shows 'Off track' in large red text. To the right, 'TODAY'S REMAINING LESSONS' shows '37' lessons, with a note to 'Complete by Thursday, August 16 to get back on track.' Another horizontal line leads to the 'BADGES ?' section, which displays '1 of 7' subjects completed. Below this, a row of seven circular icons represents different math topics: 'Getting started' (orange), 'The number system' (grey), 'Equations & expressions' (grey), 'Ratios & proportions' (grey), 'Geometry' (grey), 'Functions' (grey), and 'Algebra' (grey).

KNEWTON Knewton Math Readiness **BETA** Help | Change password | Logout MY DASHBOARD

Welcome, Katie

HOW THIS COURSE WORKS

Next activity

Warm up

From: The number system > level 1 > Decimals

Let's go >

STATUS ?

Off track

TODAY'S REMAINING LESSONS

37 Complete by Thursday, August 16 to get back on track.

BADGES ?

1 of 7

SUBJECTS COMPLETED

Getting started

The number system

Equations & expressions

Ratios & proportions

Geometry

Functions

Algebra


Triumph Learning - Student

Triumph Learning - State Test Preparation & Practice, State Standards-Based Instruction, Common Core State Standards-Based Instruction, Blended...

Sophia G. ▾

Assignments ▾ Games Videos Grabbed (5)

SHOW ME: All Ms. Emerson Mr. Browning Mrs. Morris

 TODAY	MATH: Addition Introduction 15 Aeronauts	2/4
1 DAY	Addition Basics Collection (7)	↓
2 DAYS	MATH: 2-Digit Subtraction 3 Aeronauts	0/4
4 DAYS	MATH: 3-Digit Subtraction with Borrowing 1 Aeronaut	2/4
5 DAYS	MATH: Solving word problems by adding and subtracting fractions with unlike ...	🔒

+30

4,750

4,700

4,650

4,600

4,580 🐱

4,550

368 SKILLS MASTERED

15 FLOCKS RELEASED

4,590 FEET TRAVELED

Triumph Learning - Teacher

iPad 4:36 PM

Triumph Learning - State Test Preparation & Practice, State Standards-Based Instruction, Common Core State Standards-Based Instruction, Blended...

GET Waggle™ Teacher Preview Settings Send Message Help Alerts Dorothy Z. ▼

MCKINLEY ELEMENTARY SCHOOL: 3rd Grade 4th Grade 5th Grade 6th Grade 7th Grade 8th Grade

Loudon Middle School

Find Teacher, Student or Class

Email Print Export Save

3.OA: OPERATIONS AND ALGEBRAIC THINKING 3.OA.1

Minimal 49% Partial 28% Basic 15% Proficient 11% Advanced 3%

Grade 3 Math

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% STANDARDS PROFICIENT AND ABOVE

A. Mrs. Black Afternoon 22%

B. Mrs. Zbornak 21%

CLASS	STUDENT NAME	PROFICIENCY 7 DAYS AGO	PROFICIENCY TODAY ▼	CONFIDENCE
- SCHOOL AVERAGE (7 DAYS AGO) -		Basic		
- SCHOOL AVERAGE (TODAY) -		Proficient ↑ 10%		
Mrs. Black Afternoon	Zamora, Andrea	Basic	Proficient ↑ 10%	Low
Mrs. Black Afternoon	Park, Sam	Basic	Proficient ↑ 10%	Very Low
Mrs. Black Afternoon	Rahner, Olivia	Basic	Proficient ↑ 10%	High
Mrs. Zbornak	Gonzalez, Rose	Partial	Proficient ↑ 10%	Medium
Mrs. Black Afternoon	Weiss, Ella	Partial	Basic ↑ 10%	Medium

Standards

Open Saved Report

All Grade 3 Students

3.OA: Operations and Algeb...

Target Proficiency Date

Today

Proficiency Level

Min Partial Basic Prof Adv

Confidence Level

Very Low Low Med High Very High

Compare to School

Assignments

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POWERED BY KNEWTON

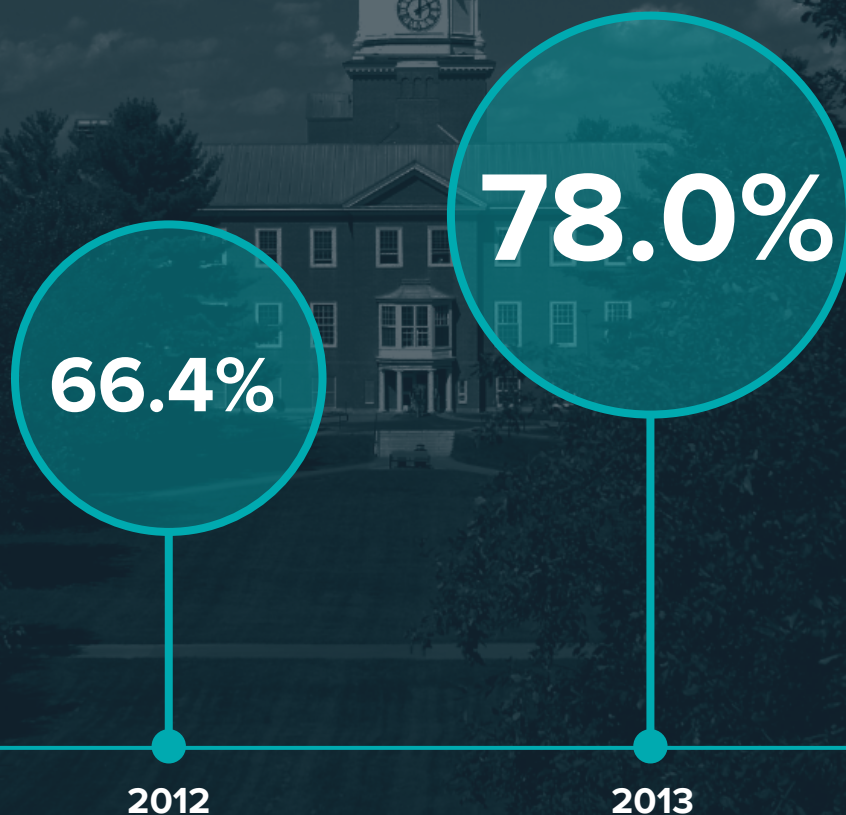
Efficacy



Pearson's MyMathLab

Reading Area Community College

According to a recent study by Pearson, “data indicate a significant rise in student outcomes since the plan’s implementation”



Pearson's MyMathLab

Northeastern Illinois University

A study found that students who used the Knewton-powered Study Plan within the MyMathLab course performed higher

12.5

Percentage
Points
Higher ▲

