

A young boy with dark skin and curly hair is looking up with a smile at a molecular model being held by an adult's hands. The model consists of black, white, and red spheres connected by grey rods. The background is a blurred laboratory or classroom setting.

**BATTELLE Education**

# NEW SCHOOL START UP GUIDE

**Battelle**  
*The Business of Innovation*

## OVERVIEW

In many ways, starting a new school is like starting a new business. It can be a complex undertaking with multiple moving parts with each part dependent on the other in order to function. The following document describes a process that captures all of the aspects of creating and implementing a STEM school design. If followed, the process serves as a toolkit encompassing all of the elements necessary to open and operate a new school. The process is divided into five sections:



## LET'S GET STARTED

At some point in the process, it will be necessary to work on all five sections simultaneously. The most successful school start-ups understand that each piece of the process is interconnected with the others. By working on the process in sections, the expectation is that the process can be defined as a whole and executed thereby creating a clear path to the finish line.

One way to look at this process is to view it as a project plan. In the language of project management, the project plan helps to define critical paths and identify the basic milestones and benchmarks in logical sequence. It serves to tell us “*what*” needs to be accomplished, *when* it needs to be accomplished and by *whom*. The plan itself is focused on the “*what*.” The task of the implementing team is to ensure the process works by determining the roles and responsibilities (who does the “*what*”) and the timeline (when does the “*what*” get done). This process is particularly useful for those who need a road map to get from concept to implementation. The project plan assists in making sure detours are avoided and all the work is completed in a timely manner.

It should be noted that starting a STEM (Science, Technology, Engineering and Mathematics) school is somewhat different than starting a traditional high school. In its truest form, a STEM school offers an integrated academic approach and utilizes the design process in almost every aspect of the operation. In addition, by being student focused, the school has to be designed with flexibility to meet the needs of all students attending. While some pieces of the startup puzzle are the same as any school (budget, marketing). The added complexity of STEM pedagogy makes it necessary to ensure planning is well coordinated. The following document outlines all five sections necessary to complete a well-designed STEM school and a logical sequence for implementation.





# 1. CURRICULUM

Curriculum serves as the most critical piece of the school design. It is the point of difference that establishes why the school is different and attractive to potential students (and also staff). Curriculum is often described as “what is written, taught and tested.” In a STEM school, the curriculum focus is mostly on “how” the subject matter is taught: pedagogy. The method of teaching impacts:

- Who teaches?
- How many credits can be earned?
- How much space is needed to teach?
- How many students are taught?

In short, the curriculum design impacts everything and needs to be determined before anything else. Curriculum is the foundation of school design.

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## JANUARY

Curriculum development starts in broad based maps and then evolves into very specific levels of mapping. The school design is predicated on what the school hopes to achieve to benefit the student. Using a design process, the developers of the curriculum must start with the end in mind. It is a good idea to approach this process with a maximum and a minimum credits earned by grade level. For example, if you are building an early college model, will all students follow the same track and earn a set number of college credits? If not, what supports or classes are in place for those who do not?

- Graduation credit requirements (minimum and maximum) determined
- Mastery or time-based credits established
- Grade level credit offerings defined (how many can be earned?)
- Draft of four year master schedule completed
- Credits by grade level defined
- Core courses defined
- Elective courses defined

## FEBRUARY

Usually in school design, two very different pathways for students are established. For those students meeting the benchmarks on time, the design is fairly straightforward. For those needed extra time or the ability to take alternative paths, curriculum design is more challenging. It is recommended that all case scenarios are not defined – it is more important to review the contingencies for those students who are serviced first (i.e. 9th graders). Plans will change as the curriculum designers get to know the student population better. Focus only on those that are front and center.

- 9th Grade curriculum explored in depth (pedagogy)
- Number of students with IEPs reviewed
- Services for those students who accelerate planned
- Services for those students needed more time planned

## MARCH

The curriculum design switches from what gets taught to how it is taught. Teaming, design challenges, earning credits are the subject of conversation at this point. The principal should have oversight of the process, as he will ultimately be responsible for the implementation.

- Student schedules reviewed and established
- Design challenges (integrated projects) established
- Professional develop priorities established

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## APRIL

This is the time when the skills needed to deliver the curriculum and the skills of those delivering the content are compared to develop the appropriate professional development plan.

- 9th grade curriculum mapped
- Teacher strengths and weakness aligned to curriculum
- Professional development plan for June defined

## MAY

Once the core curriculum is defined, it is much easier to work on the “exceptions” – those students who need either acceleration or extra time. This is the stage when you fine-tune the curriculum to meet the needs of all students.

- Records of student enrollment reviewed
- Determine “by the numbers” who may need special attention (not just IEP students)
- Define alternative schedule options for students who may need additional resources

## JUNE

This work is done in coordination with the Human Resources team. This is the critical point of matching staff with the curriculum.

- Professional development plan implemented.
- Review of PD completed to determine the needs of staff for PD offered prior to school opening.
- August PD plan established and scheduled.



## 2. HUMAN RESOURCES

The most important staffing position for a new school is the principal or school leader. This person will not only have the responsibility of day-to-day operations but will also be accountable for supporting the overall mission and vision of the school. This position is staffed prior to getting into curriculum and facility design to ensure he has input on the implementation to appropriately carry out the mission.

The rest of the Human Resources section is co-dependent on two principle drivers; student enrollment and curriculum design. These two key drivers must be determined – at least at a conceptual level – prior to putting the staffing process in place. The first step in determining staffing needs is reviewing the graduation requirements for the school and estimating the number of maximum and minimum credits students will earn as they matriculate through the four years to get to graduation. Since most of the “types” of credits are pre-determined by state graduation requirements, the determinations of elective credits are the most critical to this process. Once this work is complete, a master plan should be developed to map out what credits will be offered and when (i.e. pre-calculus in the 10th grade). The second step is determining the number of students and grade levels the new school will serve. Teacher to student ratios can be identified at this point. The following is a sample work plan for the Human Resources section for the school start up:

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## JANUARY

Principal position hiring completed. Plans for staffing the remaining positions begins.

- Human resources needs for 9th grade specific staffing for 2015-16 complete
- Training schedule (dates) for “new teacher orientation” determined

## FEBRUARY

With the staffing needs for 2015-16 completed, teacher recruitment begins.

- Positions determined, job descriptions developed
- Staffing committee formed, led by Principal
- Hiring process defined: job posting, application process, interview schedule determined
- Job postings complete

## MARCH

Job posting are completed and the application process has begun.

- Principal defines the interview process
- Questions developed for prospective applicants
- Interview committee meets and reviews applicant process
- New employee on-boarding process established (orientation, policy and procedures, schedule of employment).
- Applications for positions vetted, finalists determined

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## APRIL

All interviewing committee members have clear understanding of “type” of staff members needed and credentials required to adequately staff the school.

- Interviews are completed
- Positions offered to qualified applicants
- On-boarding process reviewed with new staff members

## MAY

With the staff in place, this time period is used for reviewing “who we have” and “what do they need.” Professional development is established to support staffing. This work is performed in close collaboration with those working on the curriculum.

- Review of graduate requirements – minimal and maximum credits needed to be completed in the 9th grade
- Review of curriculum to be offered in 2015 – 16 school year
- Review of staff skills and “readiness” to work in a STEM environment
- Professional development plan (day-by-day) established

## JUNE

Staff development period begins. The new staff will have at least 3-5 days during June dedicated to professional development. The new staff will be brought back together again in August, prior to the opening of the school.

- Professional Development plan implemented.
- Review of PD completed to determine the needs of staff for PD offered prior to school opening.
- August PD plan established and scheduled.

A young girl with brown hair, wearing a purple sweater over a grey and white striped shirt, is focused on looking through a white and black microscope. She is sitting at a wooden desk with a notebook and a yellow pencil. The background is a blurred classroom with a chalkboard and a window showing a person's face.

## 3. FACILITY

The facility plan should always be designed in collaboration with the curriculum team. Whenever possible, the facility should reflect or support the mission of the school and the delivery of content. While all facilities for new schools have limitations, maximizing design based on the education mission of the school is critical to the success of the school.

It should be noted that teams designing school often separate “technology” from the Facility design team. This is a mistake – technology is only a tool and not a driver of education. School buildings all across the country demonstrate the design of segregated technology, creating labs or “spaces” for technology rather than an integrated concept. This is usually a more costly approach and a poor educational design.

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## JANUARY

The space for the new school should be established. The needs of the instructional design (curriculum and staffing) are the focus of the work.

- Space based on curriculum/staffing established
- Rooms based on curriculum design established
- Technology supports determined
- Contracting needs established

## FEBRUARY

For an existing facility, some adjustments will be necessary. Some of the adjustments are about minor fixes, but others are more major and require construction bids. At this point, the facility design for the operations of the school should be finalized and contracts for major work finalized.

- Principal and school design team complete all the needs of the school design for the 2015-16 school year.
- Overall facility design completed.
- Construction contracts (RFPs) issued
- Technology plan completed.
- Technology contracts (RFPs) issued

## MARCH

Contract issued. Facility design is complete. Construction and technology support system implementation begins.

- Construction contracts awarded
- Technology contracts awarded
- In house support defined
- Construction begins
- Set weekly progress reports with the school principal and project manager

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## APRIL

At this point in the process, the facility progress is the responsibility of the project manager and principal to ensure timely completion of the work.

- Trouble-shoot with construction and technology providers

## MAY

Project completion is the focus of this work.

- Punch list for construction project established
- Punch list for technology project established

## JUNE

Facility and technology work completed.



## 4. BUDGET

The budget process for the new school is typically determined the revenue stream of the student population. Most, if not all, new schools operates at a deficit for the first three or four years of operations. Unless the school model includes a large student population base at the start, it is difficult to achieve break-even status until enrollment reaches four to five hundred students. Most new schools are driven by grant funding to bridge the gap during the startup years. Careful planning at the beginning of the process allows for grant funding to last longer and support the needs of students as they arise. Too often, too much funding is dedicated to technology or other “bells and whistles” that do not necessarily support students and are costly to maintain.

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## JANUARY

The first step in the process is establishing projected revenue and project expenditures for the first year of operation. Dollar amounts will be directly tied to student enrollment numbers.

- 2015-16 student enrollment projected
- Revenue (based on state and local funding) projected
- Operational costs outlined (staffing, building costs, support costs)

## FEBRUARY

At this stage, operational and revenue costs have been determined, but it should be noted that all of the numbers are based on projections. Additional funding will be needed for startup (facility, professional development, special equipment, etc....)

- Additional funding support reviewed (grants, philanthropic).
- Additional support costs (training, equipment) reviewed
- Grant budget and operational budget compared to determine additional supports as needed
- Long term projected budgeting begins (years 2, 3 and 4)

## MARCH

Projected costs for “extra” items devoted to the startup of the school are determined.

- Professional development costs established
- Technology costs established
- Facility costs established
- Cost comparisons of budget actuals to projected

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## APRIL

The work of this stage is based on comparing what was projected to actual. Staffing costs should be more apparent, as are technology and training costs. This is the time to establish an operational budget that includes student revenue and actual costs.

- Monthly budget review process established.
- Projected costs to projected revenue and grant funding is the basis of ongoing budget management.

## MAY

There is typically a gap between current funding and a desire to spend additional funds. Strategies to address both sides of the funding equation are needed.

- Budget constraints are identified
- Movement of funds to meet priorities completed
- Opportunities to generate additional revenue considered
- Opportunities to contain cost are considered.

## JUNE

At this point, budget management becomes a monthly process of review.

- Expenditures monitored
- Priority funding decisions made

A group of five diverse business professionals are gathered around a table in a meeting. They are all smiling and looking towards a laptop screen. The man in the center is wearing a blue and white plaid shirt. The woman to his right is wearing a light blue button-down shirt. The man on the far right is wearing a light blue shirt. The woman on the far left is wearing a white shirt. The man on the far left is wearing a blue shirt. The background is bright and out of focus.

## 5. MARKETING

There are steps that can be taken in marketing the new school prior to having all the pieces and parts figured out, but as the process proceeds, the sharper and more self-evident the marketing becomes. School, for the most part, is school – it has English, mathematics, science and history. The points of difference of a school – how those subjects are taught and by whom are the differentiators that will assist in the marketing as time progresses.

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## JANUARY

In most new school openings, the marketing process has usually started with some parts (white papers, brochures, grants, etc.). This begins the formalized process.

- Internal and external stakeholders confirmed
- Communication process/protocol established
- Market needs assessment begins

## FEBRUARY

As the school begins to take shape, the marketing process begins to gain focus.

- Internal and external stakeholders confirmed
- Communication process/protocol established
- Market needs assessment completed

## MARCH

Implementation begins in earnest. Most teams believe marketing is mostly about recruiting students. In reality, schools are part of the fabric of a community. The marketing needs to give the school an identity or outward facing personality to help shape the community's perception of the school. This will help in attracting talent, students and community support.

- Communication team focuses plans to reach both internal and external stakeholders
- Communication process/protocol begins implementation
- Marketing plan is drafted to meet needs assessment
- Marketing plan developed

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## APRIL

The school will have a facility, a principal and a staff. Curriculum is being developed. In short, the identity of the school is forming.

- Communications team and internal and external stakeholders meet regularly
- Communication process begins implementation
- Marketing plan implementation begins

## MAY

The marketing plan begins the shift from “selling” the school to the community to telling the story of the school. School stories are almost always about the students who attend. Since the school does not have students at this point, the long-term goals of the school should be emphasized.

- Communication needs of the school reviewed
- Partnership organizations (business and colleges) identified and engaged
- Long term relationships with needed partner organizations are prioritized

## JUNE

Marketing the school to partner organizations is the focus. In order to have internships and/or college opportunities for students, the school needs a recruitment effort engaged with these types of partners.

- Define what partnership is for the school and provider.
- Craft sample MOU with partner for discussion points.

# STEM INNOVATION THAT WORKS

Battelle Education is a nonprofit venture of Battelle with a track record of developing, delivering and partnering in successful STEM schools and networks across the country. Through our unique combination of technical expertise and national reach, we deliver STEM innovation that matters.

## INTERESTED IN WORKING WITH US?

Contact **Aimee Kennedy** at [kennedya@battelle.org](mailto:kennedya@battelle.org).

Aimee is the President of Battelle Education and Battelle's Vice President for Education, STEM Learning and Philanthropy. She is also a former teacher and principal, having served in Canton City Schools and at Metro Early College.